Investing in the Future:

An Energy Company's Journey towards Renewable Energy

By

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DECLARATION

I hereby declare that the case study is based on my original work except for quotations and citations that have been duly acknowledged. I also declare it has not been previously or concurrently submitted for any other degree at Universiti Tun Abdul Razak (UNIRAZAK) or other institution.

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EXECUTIVE SUMMARY

This paper presents a case study which was developed based on the interview and discussion conducted on an employee of Repsol Malaysia, one of the prominent energy companies in Malaysia. The data was also backed with secondary data collected from annual reports, journal papers and news articles. The focus of this case study was to evaluate two problems faced by Repsol Malaysia in their management team and as an organization. Repsol Malaysia are focused on generating energy as well as producing various petroleum-based products like lubricants for different applications in their downstream processes here. As a global organization, Repsol aims to expand their operations and become the premier energy company in the world, as well as exploring renewable energy and reducing carbon emission in their overall processes in line with their commitment to a greener and environmental focused corporation. Over the years, especially due to Covid-19, the company have faced various issues. The two main issues which were highlighted in this work is their drastic loss in revenue as well as their expansion plan in Malaysia with a government which is for petroleum products as it is one of their main incomes. This case study explores the problem and provides a critical diagnosis of the problem in hand to understand its core better. With this, with the help of various analysis tools like Strength, Weakness, Opportunity, Threat (SWOT) analysis, Political, Economic, Social, Technology, Environmental, Legal (PESTEL) analysis, 5P marketing matric, internal and external evaluation, financial evaluation. With these analyses, alternatives were formulated on how Repsol Malaysia can mitigate the problems highlighted in both long-term and short-term basis. Recommendations and implementation plans were also provided on how the top management can alleviate the problem in hand.

CHAPTER 1: CASE DESCRIPTION

1.1 Company Background

Repsol is a prominent and very recognised multinational organization. The organization is based in Madrid, Spain and is a renowned figure in the energy industry. Committed to energy transition and low emissions, Repsol's presence is felt throughout the world. It is involved both in upstream and downstream activities. Operating in 29 countries, including Argentina, Brazil, Mexico, Chile and Columbia (*Repsol, a Global Energy Company*, n.d.). It has a workforce of more than 36 000 employees globally ranging from more than 70 different nationalities. Interestingly, Repsol is very well integrated and operates in various areas of the oil and gas industry. These include exploration and production, refining, distribution and marketing, petrochemicals, power generation and trading.

Dating back to the 1920's, the history of the foundation of Repsol were laid over a period of 6 decades. Repsol was funded by the National Institute of hydrocarbon, INH, in 1986 to accomplish the reorganisation of the Spanish energy sector. Currently, it is a prevalent industrial organization in Spain and the 6th largest oil company in Europe (basing on its sales). Moreover, Repsol is the 15th largest petroleum refining company and is also listed on the Fortune 500 list (*ESG Evaluation: Repsol S.A.* | *S&P Global Ratings*, n.d.).

Repsol has their own refinery and downstream operations in Malaysia, a South East Asian country rich with oil fields. There, they conduct a few operations, which include refinery of crude oil, generation of energy as well as production of several industrial petroleum-based products such as various forms of lubricant oils and so on. Due to the recent downturn of economy due to the Covid-19 pandemic, the organization suffered some financial loss due to stop in operations and lower demand for petroleum products, especially the ones in which they cater in.

1.1.2 Repsol in Malaysia

Repsol's operations in Malaysia is mainly focussed on the upstream and lubricants business. It owns six blocks of development in Malaysia with one for exploration purposes and the other five for production and development. In 2015, new wells were established at Kinabalu offshore region for a redevelopment project (*Repsol in Malaysia - Oil and Gas in Southeast Asia | Repsol*, n.d.). Operations began here in 2017 after a new crude extraction platform was erected. However, Repsol owns only 60% of the business with the other 40% belonging to Petronas. The annual production capacity of in 2018 was recorded to be 17, 050 Bbl/day initially. After being a production unit, this amount is expected to increase by 7000 barrels of crude per day between 2017 and 2019. Besides that, Respsol also began exploration and production at PM3 which is located between the seas of Malaysia and Vietnam. In September 2017, a new platform was also built there which increased production enabling them to export to both the Malaysian and Vietnam markets. Furthermore, in 2011, Repsol started producing lubricants in their plant at Kuala Lumpur. Following a joint venture with United Global Limited in 2019, Repsol has enhanced its presence in the southeast Asia region through a distribution network.

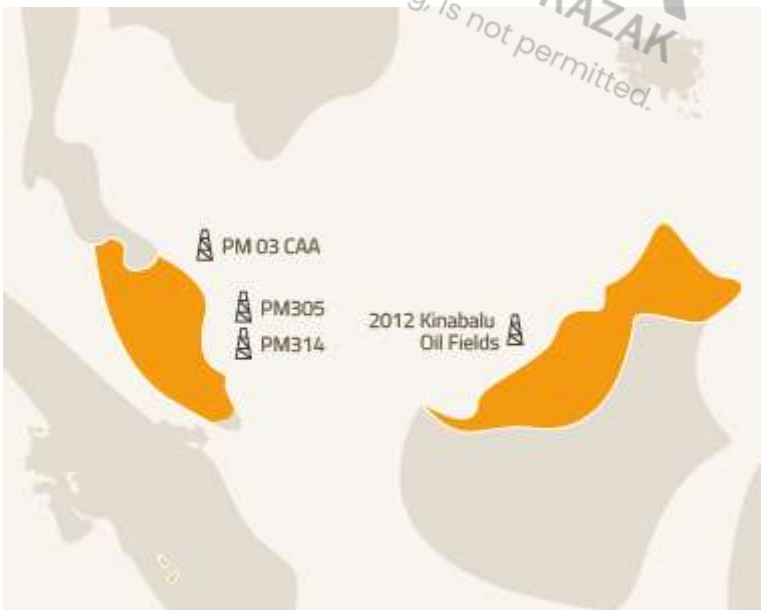

Figure 1.1 Repsol's initiatives in Malaysia

However, mid last year, Repsol agreed to sell off its operated assets in Malaysia to further channel funds to appreciate new low-carbon initiatives. This move will give Repsol a better financial kickstart to be able to proactively advocate for low carbon ideas.

1.1.3 Commitment to the future – Carbon reduction

Repsol published its first annual SGD report in 2019. This report further highlighted areas of focus for the organization as whole in looking towards the future. Repsol aims to maximise its support and involvement in climate change and clean water. It also wants to promote affordable and clean energy for all via responsible consumption and production of natural resources. Furthermore, Repsol actively aims to fight against desertification and biodiversity loss in efforts to focus on terrestrial ecosystems. All in all, Repsol shows to be dedicated in ensuring its ways are greener and more sustainable for the long term (Aitana González & Zárate, 2021). In terms of emission control, Repsol targets to achieve zero net emission by 2050 (Repsol,2019). This goal will be reached in progressive targets as follows:

- 10% reduction by 2025
- 20% reduction by 2030
- 40% reduction by 2040
- 100% reduction by 2050

The purpose of this is to ensure that Repsol actively participates in efforts to building a better tomorrow with low no emissions at all. In comparison with data from 2016, the measure of carbon intensity indicator has reduced by 2.8% currently, showing that Repsol is taking its targets seriously.

In terms of monetary support, Repsol has invested more than 2500 million euros in low emission business. Moreover, they have begun production of one of the world's largest floating wind farms in Northern Portugal. This massive infrastructure aims to be able access energy resources in large and formerly inaccessible offshore areas. This is a proactive move which further magnifies their goals on relying on renewable

energy sources, while also addressing energy security and climate change, for a more sustainable future.

Figure 1.2 Repsol's largest wind farm in Northern Portugal (*WindFloat Atlantic Project* | *Repsol*, n.d.)

1.1.4 Commitment to the future – Reducing water usage

Repsol is also taking water usage very seriously. It has actively reduced water consumptions and have increased the volume of reused water to almost 75%. In 2015, Repsol reused 9 million m3 of water and that amount was increased to 15.6 million m3 in 2019. Additionally, the amount of water reused by the organization reached 22% of its total water usage, excluding water from electricity and business unit (Aitana González & Zárate, 2021). Not only that, all residual water emissions were all treated to ensure that they were of the best quality for wastewater. 62% of residual water was treated with secondary treatment procedures such as biological water treatment using microorganisms to make certain that they followed the water regulations

1.1.5 Commitment to the future – Biofuel production

Biofuels are obtained from renewable energy sources like raw materials and animal waste and does not release carbon dioxide when burnt. In efforts for a greener future, it is imperative to venture into biofuel in efforts to reduce carbon footprint and carbon emissions. Repsol in increase its production of biofuel to reach 600,000 tons per year in 2030, double that of which will be produced in 2025 (Aitana González & Zárate, 2021). Besides that, Repsol plans to invest a whopping 188 million Euros to build the first advanced biofuel plant in Cartagena, Spain. With the objective of producing biofuels from recycled raw materials to be used in cars, trucks or aircrafts, this plant is proposed to be in operation by 2023 and will enable the reduction of almost 900,000 tons of carbon dioxide emissions per year (*Repsol to Build Spain's First Advanced Biofuels Plant in Cartagena*, n.d.).

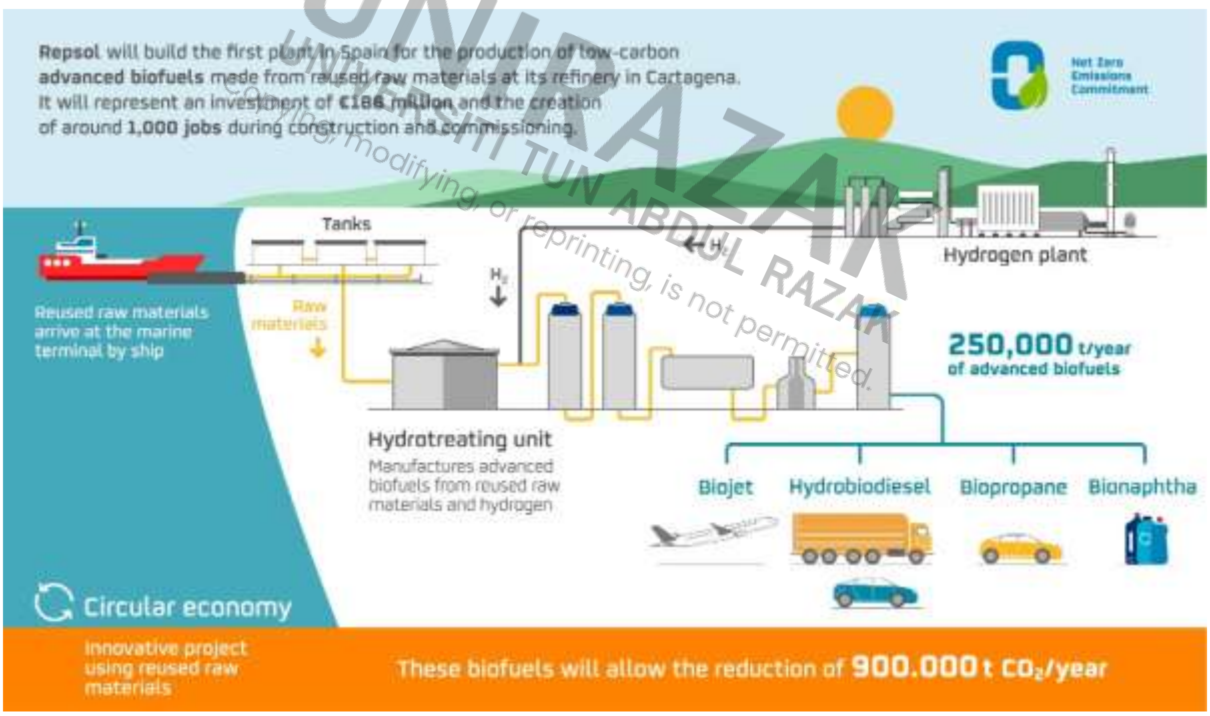

Figure 1.3 Repsol's first advanced biofuel plant in Spain to achieve its net zero carbon emission goal

1.2 Overview of Industry

Renewable energy can come in various forms and sources. In the current market, the dominating ways in producing renewable energy and can be considered to be clean and free of greenhouse gas emission are energy harvested from wind energy, hydro power from dams, solar energy, geothermal energy as well as a biomass energy, a form of clean energy which is growing of late. The renewable energy market is a market which is slowly growing across the globe and it is catching up due to the continuous demand for energy. It is estimated that the global renewable energy market has been provided with a valuation of close to USD 900 billion in the year 2020 and it is expected to more than double in terms of value within 10 years with a continuous year on year growth rate of more than 8%. The fast growth rate of this market is driven by the consistent increase in energy demand across the globe. Mega economic countries such as China, India, United States of America have a continuous increase in energy demand due to the industry they have established in their respective county, with China and the United States of America known for their advanced manufacturing and electronic manufacturing demands soaring energy needs. The increase in the number of developing countries across the globe, including some of the African countries as well as plenty of Asian countries mean that their need for energy has also increased to ensure that their rapid development in various parts, such as infrastructure, transport, economic, manufacturing, food sector all need more energy to sustain. Over the globe, there are a few major players in the energy industry who have heavily invested in ensuring they can capture some of the renewable energy market. They include Tesla, Vertas Wind Systems, Ørsted A/S, Verbund, Gazprom, SolarEdge Technologies and so on. Some of the traditional largest energy companies such as Saudi Aramco, BP, Chevron and China Petroleum and Chemical Corporation are still focused in refining fossil fuel energy and maximising its potential.

Particularly in Asia, where most of the renewable energy demand in the globe is focused at, local governments have started to develop sustained and sound policies in implementing projects relating to harvesting green energy to ensure their needs

for energy is met over the course of time. This also include providing various tax incentives to attract more investors to develop renewable energy projects in their

country. This was necessary as it is an accepted fact that starting up and developing technologies to harvest and creating a supply chain from harvesting to providing consumers with clean energy is expensive relative to mature fossil fuel energy harvesting technologies. Hence, this has led to international companies feeling worried and hesitant that these projects may not be viable if the local government implement plenty of red tapes or high tax that would not be financially sustainable over time.

Closer to home, Malaysia is also categorised as one of the developing countries in Asia whose need for energy has increased tremendously over time. Some of the largest energy corporations in Malaysia are Petronas, Shell, Repsol, Handal Energy Berhad, Exxon Mobil and Wood. Even though the country is still heavily reliant towards fossil fuel for the bulk of its energy, there is a steady increase towards using renewable energy in Malaysia, especially in the form of hydro energy due to the country's geographical nature of strong rivers (Gomesh et al., 2013). It is estimated that up to 18% of the country's energy is sourced from renewable energy, and this is set to increase to at least 20% within a short 5-year span (Aitana González & Zárate, 2021). Within Malaysia itself, it is expected that more leeway and government intervention will help to further push the power industry, with the government initiative of Malaysia Electricity Supply Industry (MESI) 2.0 reforms helping the gradual liberalisation of power market segments. This would help to create a more competitive energy market within Malaysia, with the idea of attracting foreign investors to realise the potential of the country in this energy sector (*The Law Reviews - The Energy Regulation and Markets Review*, n.d.). Due to the rapid development experienced in Malaysia, it can be expected that a double in renewable energy demand to happen, from 6 gW to 14 gW. Other than hydro energy, the country is also heavily ban king onto solar energy as means to supply renewable energy due to the consistent sun as well as the large land available to set up huge solar farms. This is fortified by the fact that solar photovoltaic energy technology is maturing over time by increasing its efficiency. Table 1.1 shows the breakdown on the generation of various forms of energy per capita in Malaysia.

Table 1.1 Breakdown on the generation of various forms of energy per capita in Malaysia (*Energy Consumption in Malaysia*, n.d.)

Energy source	total in Malaysia	percentage in Malaysia	percentage USA	per capita in Malaysia	per capita USA
Fossil fuels	225.48 bn kWh	78,0 %	70,0 %	6,966.64 kWh	20,230.06 kWh
Nuclear power	0.00 kWh	0,0 %	9,0 %	0.00 kWh	2,601.01 kWh
Water power	52.03 bn kWh	18,0 %	7,0 %	1,607.69 kWh	2,023.01 kWh
Renewable energy	11.56 bn kWh	4,0 %	14,0 %	357.26 kWh	4,046.01 kWh
Total production capacity	289.08 bn kWh	100,0 %	100,0 %	8,931.60 kWh	28,900.09 kWh
Actual total production	148.30 bn kWh	51.3 %	43.0 %	4,581.97 kWh	12,428.52 kWh

Another important factor which needs to be considered when discussing on the current renewable industry in Malaysia is the readiness of the country's infrastructure itself in further developing renewable energy for greater energy generation. A research paper published by Teoh et al., have come up with some conclusion on the readiness of Malaysia in regards to renewable energy; having the awareness of renewable energy and demonstrating energy-conserving behavior, in which their research shows that Malaysia is ready (Teoh et al., 2020). Whist the country is blessed with various renewable energy sources, adoption of such technology has been limited due to several factors, one being the attitude of consumers itself. Researches have also shown that even though the continuous maturation of the solar energy technology means adoption of such technology can be easy, there is no strong interest within the public to adopt them. Some reason behind is can be the lack of knowledge on the advantages of such energy as well as poor implementation of policies, which is heavily focused towards industry rather than the domestic consumers.

1.3 Competition

1.3.1 Business competition

Oil and energy are the largest fields which is high income generating. Internationally and locally, there is great competition being faced by Repsol. Globally, based on the highest revenue generated, PetroChina is leading the list with an annual revenue of 280.7 billion USD, followed by Sinopec with 271.1 billion USD. Both these companies are based in China. Next is Saudi Arabia's national oil company, Saudi Aramco which also happens to be the most profitable organization in the world with a high pay out of dividends. BP, ExxonMobile, Shell and Total come in next in line, hailing from the UK, US, Netherlands and France respectively (Ngadiron et al., 2015). All aforementioned giant oil and gas companies are major competitors for Repsol. These companies too have one goal in common, i.e., to ensure a green and sustainable future. In one way or another, all these companies take health and safety, climate change and environment related matters very seriously.

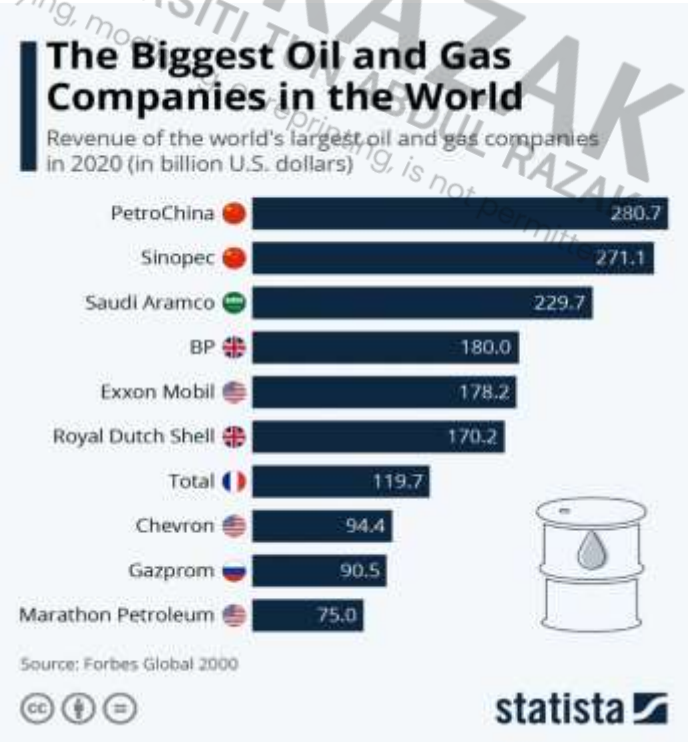

Figure 1.4 The revenue of the top 10 oil and gas companies in the world based on revenue generated.

In Malaysia, the main competitor for Repsol would be Petronas. Petronas is also and MNC with its presence over 50 countries which actively advocates for a sustainable future. In Malaysia, Petronas has an upper hand since it is the Malaysian local oil and gas company. In accordance with the Malaysian by-laws, all oil and gas related natural resources within the Malaysian seas will automatically belong to Petronas. Only with strong connection and partnership with Petronas can Repsol be able to tap into the Malaysian seas to further exploration and production. Repsol recognises this and has already started working with Petronas to further expand its business reach.

1.3.2 Market Competition

Petronas recently announced its objective to achieve zero net carbon emissions by 2050 too. It plans on building on operational excellence strengths, or more specifically, to significantly making efforts to reduce hydrogen flaring and to optimise its production facilities. Furthermore, similar to Repsol, Petronas vouches to promote low carbon options such as using natural gas and opting to renewable energy. By accelerating technology and innovation stewardship, Petronas proposes to develop low and zero carbon fuels, products and solutions. Additionally, Petronas has a blueprint to preserve and conserve the ecosystem as it acts as carbon sinks for carbon dioxide capture.

Similarly, in Shell, it has taken efforts in the renewable energy sector by starting up its largest green hydrogen electrolyser. It is a novel electrolyser of its kind located at Shell's Energy and Chemical Park Rheinland. This project will significantly increase hydrogen production while helping Europe as a whole in achieving climate neutrality. Almost 30% of Germany's demand for hydrogen is being met by this plant and this figure is expected to increase by double fold come 2030 (*Our Climate Target* | *Shell Global*, n.d.)

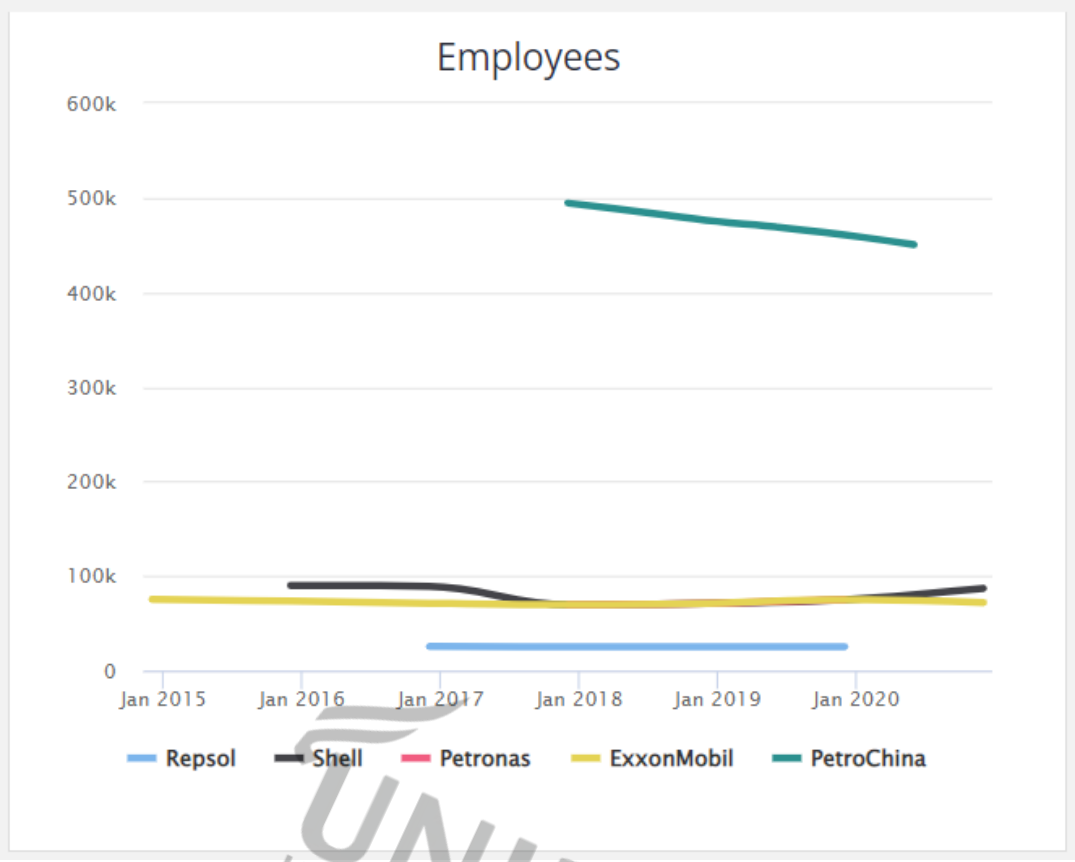

Figure 1.5 Number of employees in Repsol as compared to their direct competitors

A poll from a reputable surveying organization, Craft, shows that the number of Repsol employees are the lowest in comparison to Shell, Petronas, ExxonMobil and PetroChina (*Top Repsol Competitors and Alternatives | Craft.Co*, n.d.). This could be due to the fact that Repsol is still an expanding business portfolio in the oil and gas industry. PetroChina, as expected, has the highest number of employee as it is one of the largest energy organization, followed by Sinopec.

1.4 SWOT Analysis

In this case study, one of the main tools to evaluate the renewable energy industry in regards to Repsol and the industry in whole was to use the Strength, Weakness, Opportunity and Threat (SWOT) analysis. The SWOT analysis was used to evaluate the four key components of Repsol Malaysia. The SWOT analysis is an important analysis which can provide several key information regarding Repsol Malaysia, and also provide a blueprint in developing their next step necessary to achieve their future

organizational goals. SWOT analysis has been extensively used in many case studies work as it would provide the strength of the organization within the context of renewable energy industry, the perceived weakness which can derail them in achieving their goals and plans, the opportunities that can be exploited in the industry as well as the inherent threat, internal or external, which requires identification so that mitigation steps can be actively taken. Commonly, both strength and weakness are considered to be internal factors, which are highly linked to the organization in focus, whereas the opportunity and threat is considered to be external factors; something that is beyond the control of the organization. In this work, a maximum of ten (10) factors were identified for each SWOT segment. Table 1.2 shows the SWOT analysis that has been conducted for Repsol Malaysia.

Figure 1.6 SWOT analysis (Namugenyi et al., 2019)

Table 1.2 SWOT analysis of Internal Factors (Strength and Weakness)

	Strengths
S1	Readily available technology to explore carbon capture
S2	Investment in synthetic fuel to reduce dependence of petroleum sources
S3	Advance placement of Resilience Plans
S4	Investment in renewable Energy plants
S5	Reduction in carbon intensive plants
S6	Repsol has healthy finances to support investment in carbon reduction plans
S7	Experience in renewable energy development
S8	Incremental of Repsol's assets in Property Plant & Equipment about 77% for the financial year 2020
S9	Exploration capabilities
S10	Strategic partnership with entities working on carbon reduction technologies
	Weaknesses
W1	Reliance on carbon intensive products
W2	Carbon capture technology is expensive
W3	Poor expertise in renewable energy technology
W4	Dropping reserve of petroleum
W5	Repsol total net income for the financial year 2020 has dropped to 257% due to pandemic
W6	Lack of awareness towards growing carbon capture market
W7	Lack of skill in renewable energy among employee
W8	Low experience in Renewable energy
W9	Changes in Management may hinder long term plan and progress
W10	Lack social responsibility to move from carbon intensive processes

Table 1.3 SWOT analysis of External factors (Opportunity and Threat)

	Opportunities
O1	Growth of green energy industry in Southeast Asia
O2	Modifying current technologies to reduce carbon emission
O3	Mature R&D facilities of Repsol can accelerate research on carbon capture
O4	Sustainability of renewable energy with low carbon emission
O5	Government intervention and policies which encourages carbon emission reduction
O6	Carbon capture technology is niche in Malaysia
O7	Investment by Repsol provides opportunity to accelerate carbon neutral technologies
O8	Implementation of carbon tax in the future
O9	Creation of new jobs related to carbon reduction and carbon capture
O10	Increased adoption for green energy within industrial sectors leading to higher demand

	Threats
T1	Malaysia's economic reliance towards petroleum sale may hinder government from implementing carbon reduction policies
T2	Cheap price of fossil fuel may make carbon capture technology unattractive to investors
T3	Inefficiency of current carbon capture technology
T4	No concrete action by legislation to legally force companies to reduce carbon emission
T5	Cost of carbon neutral tech may be transferred to customers which increases product price
T6	Relatively expensive to modify current products or develop new low carbon products
T7	High cost in implementing carbon capture technologies based on current standards
T8	Fluctuation in global oil prices
T9	Changes in government may lead to drastic change in policy for carbon emission reduction
T10	Low awareness of the society about the carbon emission

1.5 Area of Interest in this Study

The main area of interest in this study is to showcase the importance of transitioning into renewable energy sources as well as their commitment in implementing carbon emission reduction technologies. Repsol has taken proactive measures to showcase their commitment to having a sustainable future. Similarly, its competitors like Shell and Petronas are also actively being involved in the efforts to ensure that they reduce carbon emissions while opting for the usage of biofuels. The shift to renewable energy sources is a valuable and strategic move for the organization as energy companies are usually seen as huge contributors to the emissions of greenhouse gasses which is highly dangerous to the environment. By shifting to renewable energy and biodiesel, energy companies are proactively taking measures to ensure a green and sustainable environment and a healthier future for all.

The main area of interest in this study will be to understand the problem and threats which would hinder Repsol's effort in moving towards renewable energy and implementation of ways to reduce carbon emission as the globe tries to reduce their collective carbon emission to mitigate the impact of climate change. The issues are acknowledged and explored, prior to being analysed. Effective measures to diagnose them are also laid out.

1.6 Conclusion of Case Description

Repsol Malaysia, a renowned energy organization, has taken proactive measures toward sustainability. By reducing their carbon footprint, reducing water wastage and actively exploring into biodiesel production, they are vouching for a greener environment in the future. The SWOT analysis carried out highlights the main strengths and weakness the organisation faces. The possible opportunities and the underlying threats are also extensively discussed. In the next section, these are further delved into to provide an all-encompassing understanding to all. Furthermore, the plan to dynamically anticipate and resolve them are also explored in depth. Numerous analysis will also be presented in the upcoming sections to fully be able to comprehend the depth of issues being discussed.

CHAPTER 2: CASE ANALYSIS

2.1 Case Synopsis

Repsol, as an organization themselves are one of the largest players in the energy industry in the world. They have branches across the world, and one of their most prominent branches is in Malaysia, which focuses on end user product development and refinery. Based on their annual report, it is known that Repsol as an organization itself have been pushing themselves and venturing into the renewable energy industry, with developments in offshore wind energy, solar energy and farms, wind energy and hydropower energy, among others (Repsol, 2020). One reason behind the organization's interest towards renewable energy is due to the emerging market, the acceptance that reliance towards non-renewable energy is no longer viable in the long run, as well as their goal to reduce carbon emission in every process they are involved in. In regards to their global operations, the organization already have 12 hydropower plants, 2 combined gas cycles, and 1 wind farm; and developments of five different renewable energy projects, which include two wind (Delta 2 and PI) and three solar (Valdesolar, Kappa, and Sigma) systems. Repsol also have renewable wind energy and solar energy assets in Chile, with almost 4000 Mw of energy generated every year. Even though their investment in renewable energy has been commendable, they have not ventured into any renewable energy projects closer to Malaysia, which is within the South East Asia region.

With plenty of policies and organization adopting green technology in means to reduce carbon emission, especially in European countries, where carbon tax and carbon neutrality is implemented, it will not be long for Asia countries to catch up in this and look for more global players to invest and develop renewable energy technologies, which are greener and has a smaller carbon footprint as compared to fossil fuel-based energy technologies. It has to be noted that Malaysia is also one of the countries who have got themselves boarded with the Paris Accord. The Paris Agreement, also known as the Paris Accord, refers to the collective agreement between multiple countries to reduce carbon emission and to develop frameworks to help developed and developing countries technologies and means to develop in a less carbon intensive way, as well

as adopting to reduce their overall carbon footprint to reduce the latter's impact towards the global climate and environment (Raiser et al., 2020). Malaysia has agreed to reduce at least 35% of their yearly carbon emission by 2035, which is 20 years' time since the agreement was made (Lian, 2018). Since Repsol Malaysia has already a strong foundation in Malaysia itself, it would be logical that they take all the necessary steps to expand their renewable energy goals and align them with Malaysia's carbon reduction efforts to synergistically assist each other. The expansion into renewable energy is a two-pronged attack which is beneficial in different ways for Repsol. Firstly, investment into renewable energy improves the market capture of the renewable energy for Repsol in South East Asia, as well as throughout the world. Secondly, it is also another step towards reducing carbon emission as an organization itself. Repsol's headquarters is located at Madrid, Spain, which falls under the European Union. Hence, they will be a part of the European Union's net zero program, which is a program which focuses onto achieving neutral carbon emission by 2030. Reducing carbon emission is also considered to be a part of the organization's corporate responsibility towards their surrounding society.

Hence, looking at the situation in regards to the goals and vision of Repsol Global and Malaysia, as well as the country's own carbon emission and economic development plans, it would be a good idea for Repsol to further their investment in Malaysia in regards to developing renewable energy technologies here which would help with their revenue, as well as reducing carbon emission in the petroleum industry. The organization can use previously implemented strategies in different countries when developing renewable energy technologies as well as garnering strategic assets for such operations, or develop a different strategy which would be more suitable for the South East Asian market. Furthermore, the limitations due to the current pandemic needs to be looked into as well in regards of long-term plans in expanding their renewable energy business in this part of the world.

2.2 Problem Recognition

In Chapter 1, a comprehensive SWOT analysis was conducted to identify different facets of this issue. In regards to problem recognition, the factor's which were identified in the Weakness and Threat matrices can be used in defining as well as further understanding the issue in hand. Hence, in this work, two major issues were identified and is accepted as the core problem in this study.

- **Repsol's drop in revenue of 14% over the course of the pandemic has led to reversing renewable energy expansion projects**

In any given industry, when the need to expand or to implement a different strategy to drive the organization towards a different part, capital is imperative. In the case of Repsol, a large sum of capital is required for them to establish means to harness renewable energy in Malaysia. The COvid-19 pandemic, which started early in 2020, has cascading impact towards the whole globe in every level, more so with an energy organization like Repsol. The reduction in demand for energy, stumbling petroleum prices all led to a drop-in revenue of close to 15% within one financial year. Even though Repsol is a large organization, no organization in the planet can simply continue investing with such huge losses recorded. With so much loss in revenue, coming up with capital will be a problem for Repsol. Since the goal is to develop renewable energy production in Malaysia, Repsol would need to manage with existing assets available to do so.

- **Malaysia's economic reliance towards petroleum sale may hinder Repsol to become a major player in Malaysia**

Malaysia is a country rich with petroleum. With Petroliam Nasional Berhad (PETRONAS) running the show as a state-owned petroleum organization, the industry provides a fifth (20%) of the country's GDP itself (Mohd Samsudin, 2021). Malaysia is heavily reliant towards income from their export of petroleum products for their

economic income. This may be an issue for the government who may not be keen in renewable energy which may potentially compete with petroleum sourced energy. Encouraging exploration of renewable energy at a faster rate as compared to the increase in demand for energy locally may reduce the demand for petroleum sourced energy, hindering the country's economy. Even though the country is pressing towards reduced carbon emission, they would be more focused on carbon capture technology which can be more expensive, without sacrificing the revenue attained from petroleum energy. Here, it could be a stumbling block for Repsol in Malaysia to become a major player in the industry. They would need management intervention in providing a pathway for Repsol to expand heir operations in Malaysia without sacrificing revenues from petroleum sources. to Hence, a strategy in place is necessary so that renewable energy can supplement the continued increase in the demand for energy without impacting the importance of petroleum sourced energy.

2.3 Problem Identification

2.3.1 Repsol's drop in revenue of 14% over the course of the pandemic has led to reversing renewable energy expansion projects

As previously mentioned, based on the annual report posted by Repsol, the organization experienced a reduction in revenue of by 14%. According to the 2020 annual report posted, the organization mentioned that the large reduction in overall revenue was due to the uncertain economy during the Covid-19 pandemic, particularly to the spectacular drop in crude oil price (Shehabi, 2021). In addition to this, the annual report also suggested that the organization experienced a decline in the realization price and production volume of different assets involved in the Exploration and Production category. This occurred in several stakeholder countries, which include the United States of America, Norway, Algeria and Brazil. In addition to this, there was also a decline in industrial complex activities due to the huge reduction in demand for oil related products. Furthermore, the pandemic also halted plenty of commercial business, as a drop in sale due to the reduced demand which occurred as widespread lockdowns implemented across the globed minimized mobility activity among the mass

population as well as industrial players reducing plenty of operations due to lookdowns and governmental restrictions. The annual report also suggested that the loss in revenue would directly impact the working capital available for future projects as the financial team try to balance the economic book of Repsol. This was also confirmed with the fact that Repsol over the globe has sold off some of their renewable energy assets in means to place more efforts in increasing revenue through their petroleum product sales and operations. Looking closer into the overall financial performance, the organization generates revenue from four different segments, which are from upstream processes, downstream processes, renewable energy operations as well as corporate operation. All the segments experienced a reduction in revenue when compared to its performances in 2019, with the renewable energy category recording a revenue of around USD 16.3 million, as compared to USD 23.8 million in 2019.

Even though the organization just acquired two new renewable energy plants in the year 2020 (wind and solar farm in Chile), the unexpected drop in revenue has led to lower working capital, which would severely hinder any strategy in acquiring new asset in the renewable energy sector. Hence, one of the aims of this study is to overcome the issue of lower working capital so that Repsol can purchase new assets in the renewable energy category, preferably in Malaysia. Waiting for the pandemic to recede and then ensuring profitability and revenue is high before moving into the renewable energy market would lead to a loss in opportunity for Repsol to gain control of this new market as other competitors are also primed in further capturing the renewable energy market both in Malaysia and the globe in a whole.

2.3.2 Malaysia's economic reliance towards petroleum sale may hinder Repsol to become a major player in Malaysia

The world economy is still recovering from the adverse effect of the first lockdown placed across countries beginning March 2020. Malaysia too imposed strict lockdown during the initial stages of the pandemic, leading to deferment and closure of plenty of small to medium entrepreneurship. With close to two years passing from the first lockdown were implemented, the world economy is still recovering, including the Malaysian economic, recovering with the increase in petroleum price making it

favourable for the government in increasing their prospective gross domestic product for the upcoming year. Figure 2.1 shows the changes in the country's gross domestic product over the years.

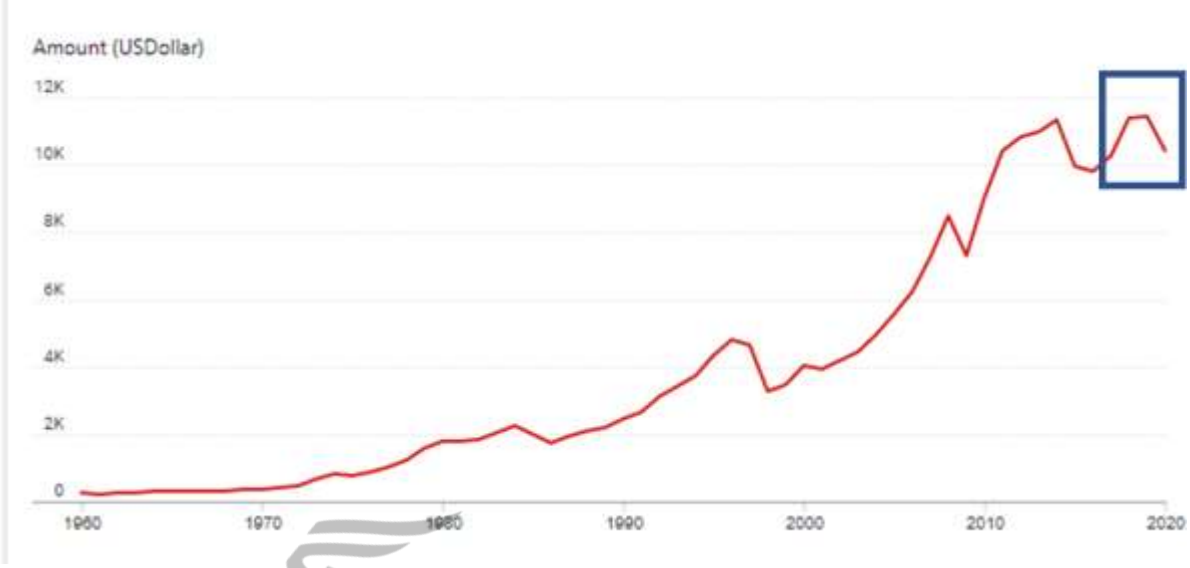

Figure 2.1 Gross domestic product per capita of Malaysia from 1960 to 2021

As mentioned earlier, the Malaysia government is heavily reliant towards petroleum as it contributes to a fifth of the country's gross domestic product (Prambudia & Nakano, 2012). The pandemic which led to widespread lockdowns drastically reduced Malaysia's gross domestic product, as seen in the box highlighted in Figure 2.1. It is estimated that the GDP will increase for the 2021 financial year, as the ease of lockdown and opening of multiple operations and sectors in the country and abroad has helped to stabilise the economy, and the global petroleum price (Anh & Gan, 2020). With the country's economy just recovering, it will be expected that the local government will not implement any new and drastic measures in means to reduce carbon output which would direct hinder their economic health. If any implementation to reduce carbon emission is to be taken, they would be something which does not impact their reliance towards petroleum fuels. However, with accords and agreements in place, the government would also want to look at opportunities to ensure their goals are met. Here, two possible outcomes can be observed. Firstly, development of renewable energy technology would be pursued as long it does not replace petroleum fuel as it would directly reduce the income for the government via their corporate vehicle, Petronas. Secondly, there would be chances where implementation of green technology to further fine tune petroleum operations to improve efficiency whist

reducing carbon emission. In both cases, the management committee and decision makers of all energy organization's including Repsol, should take this opportunity to serve the current need by maintaining petroleum fuel operations whilst implementing carbon emission control technologies. Development of renewable energy to supplement the energy needs of the country would be highly desirable. Hence, here, Repsol Malaysia needs to play along with the economic focus of Malaysia, which depends on petroleum.

2.4 Problem Diagnosis

2.4.1 Repsol's drop in revenue of 14% over the course of the pandemic has led to reversing renewable energy expansion projects

The drop in regard to the overall revenue is something that would be expected when compared to the scale of the pandemic, including the fact that no organization, big or small were able to pivot their way through unscathed. There are multifaceted reasons on why the organization experienced lower than usual annual revenue with the pandemic. Firstly, the pandemic crisis led to the drop in petroleum price to a record low of (USD 19.33 per barrel, in April 2020). Since Repsol is an organization which deals with energy production and other subsidiary processes with petroleum fuel, their business was severely affected due to the lower profit margin and lower turnover as many commercial activities were halted due to the widespread lockdown. Their annual report also confirmed this, where a demand for products developed by Repsol experienced a decrease in demand amid the slump in economic activity, especially the lockdown measures to fight the spread of the pandemic. In Spain, which is one of their largest market, the decline in fuel demand at service stations reached 85%. It later recovered to end the year 23% below the 2019 level. To overcome this, the management and organization have developed a management plan to counter the adverse effect of the pandemic, which is called the Resilience Plan. This plan includes the additional reduction in regard to operation cost and also investment in strategic categories in means to boost their revenue. Additionally, optimization of working capital amounting to almost 800 million euros is planned to halt the continued loss in

revenue. The downsizing can be seen as the organization released news that they have agreed to sell their exploration and production assets in Malaysia and in Block 46 CN in Vietnam to a fully owned subsidiary of Hibiscus Petroleum, a publicly-traded organization based in Kuala Lumpur. This was done so that the organization can support its Resilience Plan as well as to strengthen the framework of the multi-energy organization's 2021-2025 Strategic Plan that focuses on the geographic areas with the greatest competitive advantages.

2.4.2 Malaysia's economic reliance towards petroleum sale may hinder Repsol to become a major player in Malaysia

Similar to the first problem, the pandemic has decimated the local economy, which made profits from petroleum fuel eve more important to the government. The government will be happy with the fact that the reopening of markets and operations throughout the globe will increase demand in petroleum products, which will only be beneficial to the coffers of Petronas, their biggest source of income. Furthermore, the government has also leased few smaller oil fields to other energy companies such as Repsol and also Shell, which in this case, would also help in further generating revenue for the government. However, exploring into renewable energy would actually be a viable solution in means to reduce the dependence towards petroleum profit. Furthermore, since the government has their own petroleum corporation, that is Petronas, they would not allow any other energy company to surpass them in any way, which include capturing a larger market in both petroleum based and renewable energy-based operations. Expansions as well as trying to capture a bigger market would mean that they would become a direct competitor of Petronas, which may lead to loss of revenue for the later, something the Malaysian government would not desire.

Since their independence, the country has heavily relied towards petroleum fuel as the main source of income in developing the nation and in developing large infrastructures. It is dangerous for any country to only rely one large source of income, as any drastic changes in the market would hit the country greatly, which happened to most oil reliant countries across the globe during the drop in demand for fuel during the pandemic

(Camera & Gioffré, 2021). This can also be linked to energy security, as plenty of research is showing that fossil fuel will deplete soon, and the over reliance of the government towards profit garnered from this source of fuel will be detrimental to the economy in the near future (Jewell et al., 2018). Even though there is acknowledgement from the government on its reliance towards petroleum profit, in the short term, they are unable to make great changes as reaping rewards from renewable energy and carbon capture technologies would cost money as new assets and technologies are needed for them. In the current situation, the government will be heavily focused in ensuring the economy is table and robust for the next few years before implementing new changes. Hence, the top management need to address this issue on how they can further expand their market in Malaysia without inflicting damage towards the market capture of Petronas.

2.5 Data Collection

This case study is based on the collection of primary and secondary data. The primary data were collected from the interview and discussion with an unnamed staff who is working with Repsol Malaysia. This interview and discussion was done via Zoom (online) due to safety reasons. The name of the person cannot be disclosed due to the fact that it may break confidentiality privileges agreed before the session. The interview and discussion was more focused on the human capital management of Repsol Malaysia in regards to their response with the loss in revenue and their stance towards carbon neutrality. For secondary data, they were mostly collected from the annual report published in their website. The two documents focused were the consolidated management report and the organization's financial report. Furthermore, these data were supplemented with research articles, desktop articles, news, and reports.

2.6 Analysis

In this case study work, several different analysis tools were used on top of the SWOT analysis to determine the internal and external factors in relation to the organization and the problem faced. Here, PESTEL analysis was applied on Repsol Malaysia in regards to their business nature.

2.6.1 PESTEL Analysis

Repsol Malaysia has continuously performed well even though there are just one of the smaller energy organization in Malaysia, with larger competitors such as Petronas and Shell working with the same parameters and geolocation. Hence, it is important to further comprehend how the management in Repsol Malaysia is run to gain further understand their management techniques and the possible management methods they may use in their recently developed Resilience Plan to combat the adverse effect of Covid-19. Therefore, in this work, PESTEL analysis tool is used to explore the organization in terms of different internal and external factors, which include political, economic, technological, environmental and legal factors which would influence the management of the organization.

Figure 2.2 The contents of PESTEL Analysis (Issa et al., 2010)

Political

The political position of Malaysia is precarious in the current state. After the Opposition won the last general election, horse trading allowed the previous government to take over in the midst of the pandemic, creating an unstable government. An unstable government is not a good sign for all sectors, as a weak government would not be able to pass bills in relation to carbon emission reduction or to empower energy companies to further proceed with the development of renewable energy. Furthermore, the government may be wary in implementing any type of policies or regulation which may reduce their own income in regard to their dependence towards petroleum fuel.

Moreover, as mentioned before, the Malaysian government has their own energy vehicle in the corporate sector, namely Petronas. Any policies or regulation made

regarding the reduction of carbon emission or development of renewable energy technologies hinges on the ability of Petronas in capturing the market rather than the greater good. Hence, any plans by Repsol in developing renewable energy, acquiring assets for renewable energy, or implementing carbon emission reduction technologies heavily relies on the plans of the management in Petronas itself. Any clash would not be good for Repsol Malaysia as they are one of the smaller energy companies here.

Economic

The pandemic ravaged the local and global economy, leading to revenue loss and closure of operations for so many small, medium and even large conglomerates throughout the globe. In the case of Repsol, the global economy plays a crucial role in their operations and balance sheet, as witnessed during the pandemic, where lockdowns led to a sharp decline in crude oil prices, which is one of the main indicators to the health of the energy sector. This led to large reductions in revenue. On another note, it is also observed that the ease of restrictions starting in the middle of 2021 has allowed the crude oil to bounce up and also resumption of operations has also steadily increased demand for energy as well as all things related to petroleum. There is an upturn in the price of oil barrels, with prices reading USD 60 per barrel worldwide, showing a degree of normalcy. The upturn in demand is expected to increase the revenue of Repsol, with an estimated revenue increment of around 30% while the organization pursues for improved efficiency in operations and overall management.

Social

In regard to Repsol Malaysia, the sociological factor in this analysis will be recruitment of local staffs to support their operations. There is no regulation by the government that recruitment has to be local or foreign, but since the operations is conducted in Malaysia, it will be logical that Repsol hire staffs within this locality for several reasons, including better local expertise, cheaper hiring cost, easier management due to familiarity between staff and culture around. Furthermore, relying on multinational recruitment policy means there will be the time factor which needs to be considered for them to be able to coherently work together, as well as the language barrier which

may happen if a multinational recruitment policy is in place. Furthermore, Repsol developing renewable energy would need them t invest in training and development of human resource. Furthermore, current employees must also be upgraded and provided with proper training in regards to operating renewable energy technologies. Acquiring assets to further expand their renewable energy projects will be a good sign for the local community, which leads to job creation and development of the local community. For instance, Repsol's base off Kemaman, Terengganu has led to creation of a small to medium economic in that area which used to be a small fishing village.

Technology

Reducing carbon emission and expanding renewable energy sources requires a large capital to acquire expensive ad efficient technology. Repsol have already implemented some technology for these two reasons, with assets to collect wind and solar energy doe in Malaysia, whereas reduction of carbon emission is done by improving the efficiency of their petroleum operations as well as investing in carbon capture technologies. In Spain, Repsol have been successful in creating a very large solar arm in the region of Valdecaballeros, where they installed a solar farm with a capacity of 264 M. the solar farm is expected to supply power to around 150,000 homes within the vicinity as well as reducing more than 200,00 tonnes of carbon dioxide emission per year. The setting up of the farm costed around USD200 million. Since Repsol is one of the largest energy corporation in the world, they do have their own research and development division which deals with new technologies in renewable energy and carbon capture. Their ability to create solar farms, wind farms and hydroelectric energy shows that they have the expertise to develop and implement newer technologies in Malaysia.

Environment

For Repsol, it can be concluded that the environmental factor would be the most pressing matter in this case. The continued emission of carbon materials into the environment has led to significant climate change, such a erratic weather, increase in sea levels, increased frequency of flash flood as well as rising global temperature. The

changes necessary to reduce carbon emission across the globe is one key reason on the issue in hand in this work, which is the development of renewable energy to replace petroleum fuel as well as introducing methods to reduce carbon emission. There have been several key agreements which are placed in a global scale and in the local segment as well. The Paris Accord in 2015 to reduce the rate of global temperature increment to ensure that there is no increase in temperature by more than 1.5 degrees Celsius. Another global effort undertaken is the United Nation's Sustainable Development Goals. Sustainable Development Goal 17 urges to take action to combat climate change and its impacts. Among the 17 goals presented, some are focused towards restoring the environment to mitigate climate change effect, which are affordable green energy, sustainable cities and communities, responsible consumption of Earth's resources and climate action. IN Malaysia, policy changes have been slow, with the last significant policy in combating environmental pollution is the National Policy on the Environmental (NEP) which was launched on October 2, 2002. The policy was focused towards the wider community in means to promote economic, social and cultural progress through an environmentally sound and sustainable development.

Legal

Any development of renewable energy technology and implementation of carbon capture methods have to be in regulation with the Malaysian Environmental policies, which would fall under the purview of the Ministry of Water and Energy. The Department of Environment will also play a role in monitoring and ensuring that any new technology or changes in operations which would change carbon emission or energy consumption will be in accordance to the policies in place. In legality, there would not be much resistance when implementing carbon reduction changes, especially in carbon capture. In Malaysia, Petronas has started to implement carbon capture projects, such as the Kasawari CCS project, off the coast of Sarawak, will comprise the capture and processing of carbon dioxide from the sour gas field development, which will then be injected in a depleted gas field. In developing renewable energy, there would be some legality in hand, as how the energy will be transmitted into the Malaysian Power Grid will be discussed. Here, Tenaga Nasional

Berhad, the government consortium which deals with electrical energy for domestic and industrial consumption will be the point of contact.

2.6.2 The 5Ps Key Success in Repsol Malaysia

The 5P's analysis is highlighted as an essential tool to study the key successful evidences of Repsol Malaysia.

Figure 2.3 The segments in marketing analysis which consist of product, price, people, promotion, and place

Product

Repsol manufactures a series of products to cater for all different needs of its customers. The range of products are as below:

No	Category of Product	Information of products
1	Asphalts	- Bitumens - Special binders - Emulsions - Industrial bitumen
2	Aviation	- Jet A-1 - Fuel for normal aircrafts - Avgas 100LL – fuel with higher levels of safety - JP-8 fuel for military aviation
3	Specialised products	- Oil - Sulphur - Wax, paraffin, emulsions - Liquified gasses
4	Lubricants	- Heavy duty lubricants - Lubricants for motorcycles - Lubricants for cars
5	Chemicals	- Polyolefins - Polyols - Polyethlene

		-	EVA/EVB copolymers
		-	propylene glycol
		-	Polypropylene
		-	Vinyl acetate copolymer
		-	Butyl acrylate copolymer
6	Oil and gas trading	-	Bunkers
		-	Derivatives
		-	Vetting
7	Service stations	-	Petrol and diesel stations
8	Household	-	Butane gas
		-	Propane gas
9	Diesel and heating oils	-	BiEnergy E+10
		-	Tecnodiesel E+10
		-	Diesel E+
		-	Energy E+,
		-	Green Coke
10	Electricity and gas	-	Hydropower plants
		-	Combined cycle plants

Figure 2.4 Repsol Heavy Duty Lubricants

Price

Repsol's price for its products has always been competitive with bigger brands like Shell and ExxonMobil. However, as the oil and gas prices are reliant on the Global Pricing for these supplies, Repsol has little control over it.

Promotion

This segment is not applicable for Repsol as it does not have promotion in place.

People

Repsol employed almost 24 100 people hailing from almost 79 different nationalities. As a firm believer in diversity and inclusion, they root for equal opportunities and healthy work life balance. Almost 31% of women hold leadership positions in Repsol. Furthermore, Repsol also hired almost 527 employees with disabilities. All these efforts show that Repsol is an organisation with a people first mindset, and will continue to be so. The people in the organisation is the essence of it which then leads to the progress and betterment of the organisation in the future.

Place

Repsol operated in over 31 different countries. They have placed in all the continents in the world. In Asia alone, Repsol has its presence at China, Indonesia, Russia, Singapore, Vietnam and in Malaysia. In the African continent, Repsol has placed its mark at Algeria, Libya and in Morocco. Besides that, in Europe, Repsol is present in Germany, Spain, France, Greece, Italy, Norway, Portugal, United Kingdom and in Bulgaria. Repsol has created its largest footprint in the US. Starting from Bolivia, Brazil and Canada, up to Columbia and Ecuador, Repsol has expanded its reach very extensively there. Furthermore, in Guyana, Mexico, Pero, Trinidad, Tobago, Venezuala and Chile, Repsol has made its name known to many.

2.6.3 External Factor Evaluation (EFE) Matrix

In Part 1 of this work (Case Description), a comprehensive SWOT analysis was done to determine the organization's strength, weakness, opportunity and threat. The SWOT analysis can be categorised into two types of factors, which are internal and external factors which may influence the management decision of the organization. Here, the external factors, which are the opportunities and threat determined was tabulated, scored, and valuated. Each key factor was assigned a weight ranging from 0.00 to 1.0, with the former being insignificant while the latter meaning significant. The ratings refer on how Repsol's current strategy in responding to the opportunities and threat highlighted. The rating given is based on scoring system where 4 meaning

superior, 3 being above average, 2 being average while 1 referring to a poor response from their side.

Table 2.1 SWOT analysis of External factors (Opportunity and Threat), their weightage and response rating

	Opportunities	Weight	Rating	Score
O1	Growth of green energy industry in Southeast Asia	0.10	4	0.40
O2	Modifying current technologies to reduce carbon emission	0.08	3	0.24
O3	Mature R&D facilities of Repsol can accelerate research on carbon capture	0.05	3	0.15
O4	Sustainability of renewable energy with low carbon emission	0.06	4	0.24
O5	Government intervention and policies which encourages carbon emission reduction	0.04	4	0.16
O6	Carbon capture technology is niche in Malaysia	0.04	3	0.12
O7	Investment by Repsol provides opportunity to accelerate carbon neutral technologies	0.05	3	0.15
O8	Implementation of carbon tax in the future	0.04	4	0.16
O9	Creation of new jobs related to carbon reduction and carbon capture	0.03	2	0.06
O10	Increased adoption for green energy within industrial sectors leading to higher demand	0.05	4	0.20
	Threats			
T1	Malaysia's economic reliance towards petroleum sale may hinder government form implementing carbon reduction policies	0.08	2	0.16
T2	Cheap price of fossil fuel may make carbon capture technology unattractive to investors	0.06	1	0.06
T3	Inefficiency of current carbon capture technology	0.05	2	0.10
T4	No concrete action by legislation to legally force companies to reduce carbon emission	0.05	2	0.10
T5	Cost of carbon neutral tech may be transferred to customers which increases product price	0.05	1	0.05
T6	Relatively expensive to modify current products or develop new low carbon products	0.04	2	0.08
T7	High cost in implementing carbon capture technologies based on current standards	0.04	1	0.04
T8	Fluctuation in global oil prices	0.03	1	0.03
T9	Changes in government may lead to drastic change in policy for carbon emission reduction	0.04	2	0.08
T10	Low awareness of the society about the carbon emission	0.02	2	0.04
	Total EFE Score	1.00		2.62

Based on the analysis done, Repsol scored a total EFE Score of 2.62, which is above the average of 2.5. This indicates that the organization is doing moderately well, as they have been able to take the opportunities that are available as well as being able to deal with the external threats experienced in their industry. Eventhough EFE scored above the average, the organization still have a room to improve in several ways to sieve the opportunities available and mitigate the threat when it comes to developing their renewable energy market in Malaysia and reducing carbon emission. While the organization have modified their technology to better adapt in reducing carbon emission in their daily operations, more effort coupled with better strategy will be required to take up the opportunities available, such as better investment in accelerating carbon capture technology and assets to further increase their renewable energy generation, especially here in Malaysia. Being prepared in ensuring they can capture the ever-expanding renewable energy market here and the impeding policies which would favour towards organizations that reduce carbon emission is imperative for Repsol to stay ahead of their competitors in Malaysia.

2.6.4 Internal Factor Evaluation (IFE) Matrix

Similar to the previous section which discussed on the external factors which influences the management of Repsol, the internal factors, which are the strength and weakness were determined was tabulated, scored, and valuated. Each key factor was assigned a weight ranging from 0.00 to 1.0, with the former being insignificant while the latter meaning significant. The ratings refer on how strong or weak Repsol's current strategy in management are. The rating given is based on scoring system where 4 meaning superior, 3 being above average, 2 being average while 1 referring to a poor response from their side.

Table 2.2 SWOT analysis of Internal factors (Strength and Weakness), their weightage and response rating

	Strengths	Weight	Rating	Score
S1	Readily available technology to explore carbon capture	0.08	4	0.32
S2	Investment in synthetic fuel to reduce dependence of petroleum sources	0.05	4	0.20
S3	Advance placement of Resilience Plans	0.06	4	0.24
S4	Investment in renewable Energy plants	0.04	3	0.12
S5	Reduction in carbon intensive plants	0.05	3	0.15
S6	Repsol has healthy finances to support investment in carbon reduction plans	0.05	4	0.20
S7	Experience in renewable energy development	0.07	4	0.28
S8	Incremental of Repsol's assets in Property Plant & Equipment about 77% for the financial year 2020	0.06	4	0.24
S9	Exploration capabilities	0.05	4	0.2
S10	Strategic partnership with entities working on carbon reduction technologies	0.05	4	0.2
	Weaknesses			
W1	Reliance on carbon intensive products	0.06	1	0.06
W2	Carbon capture technology is expensive	0.08	1	0.08
W3	Poor expertise in renewable energy technology	0.07	2	0.14
W4	Dropping reserve of petroleum	0.06	1	0.06
W5	Repsol total net income for the financial year 2020 has dropped to 257% due to pandemic	0.05	2	0.10
W6	Lack of awareness towards growing carbon capture market	0.03	1	0.03
W7	Lack of skill in renewable energy among employee	0.03	1	0.03
W8	Low experience in Renewable energy	0.02	2	0.04
W9	Changes in Management may hinder long term plan and progress	0.02	1	0.02
W10	Lack social responsibility to move from carbon intensive processes	0.02	2	0.04
	Total IFE Score			2.75

The IFE analysis indicated that Repsol scored 2.75, which is above the average score of 2.5. This just highlights the strength of Repsol as one of the leading energies and petroleum organization in the globe, one of the important ones in Malaysia. The organization have implemented some carbon emission reduction policies in changing some of their operation procedures for this. The organization has also aggressively purchased assets in means to expand their renewable energy production capacity, with in view of phasing out petroleum sourced energy in the future. The results indicate

that Repsol is a forward-thinking organization, focusing on how they can seize the future market of renewable energy while reducing carbon emission. This is also helpful as they show that they have the necessary expertise and means to further expand their renewable energy production and also provide technical knowledge to the local market in implementing carbon emission reduction strategies. In addition to this, the human capital aspect is also needed to be seen by the top management. The lack of skill and experience among employees in Repsol regarding carbon capture and renewable energy technology needs to be addressed too. Trainings, providing a new goal and vision on how the company will be run in the next 5 years in the context of its immersion into renewable energy and the mission to reduce carbon emission as one of the largest energy consortiums across the globe is necessary.

2.6.5 TOWS Analysis

Following the analysis done on the SWOT analysis, another analysis that can be done to further generate data based on the data collected is the TOWS analysis. This is a tool for situational analysis, where the main objective is to systematically identify the relationship between the external factors (The opportunities and Threats determined in the SWOT analysis) and the internal factors (The Strength and Weakness identified in SOWT analysis). This analysis is done by opposing different categories, such as strength against opportunity, weakness against opportunities, strength against threat and weakness against threat. In this analysis, more relation on the capability of Repsol in either using the opportunity available and how they can mitigate the threats faced. The following TOWs analysis is conducted based on the two main factors identified from each category.

Table 2.3 TOWS analysis based on SWOT analysis of Repsol Malaysia

Internal Factors / External Factors	Strength	Weakness
	S1 – Readily available technology to explore carbon capture	W1 – Carbon capture is Expensive
	S2 – Experience in renewable energy development	W2 – Reliance on carbon intensive product
Opportunities	**S-O Strategies**	**W-O Strategies**
O1 – Green energy industry market is growing O2 – Modifying current technologies to reduce carbon emission	S1-O1 – Using the already established renewable energy technology and carbon capture to further grow in the market S2-O2 – Their experience in renewable energy outside Malaysia and carbon capture can help them to modify current production operation to further improve efficiency to reduce carbon emission	W1-O1 – Strategic planning can help the organization to slowly invest in carbon capture technology to develop in the market as over time, niche technologies become cheaper as more organizations implement them W2-O2 – The organization can continue their reliance towards petroleum products by implementing carbon emission reduction technologies in means to improve process efficiency
Threats	**S-T Strategies**	**W-T Strategies**
T1 – Malaysia's economic reliance towards petroleum sale may hinder government from implementing carbon reduction policies T2 – Cheap fossil fuel may make carbon capture technology unattractive to investors	S1-T1 – Their experience in carbon capture technology would be attractive towards the local government as they would be able to reduce carbon emission without hindering the production of petroleum products which is important for the economy S2-T2 – Repsol can continue maintaining their production and generation of petroleum-based products and energy whilst slowly expand their market in renewable energy, which would ensure their profitability for now and for the future	W-T1 – Since carbon capture technology can be expensive, Repsol may have to utilise more of their capital in developing and implementing them without any support from the government in terms of policies or tax breaks. The organization also needs human capital training to bridge the skill gap from petroleum to renewable energy W2-T2 – Their reliance on petroleum-based products in their energy generation and repertoire of products may continue as fossil fuel prices remain cheap and affordable for all parties to exploit in the expense of carbon emission.

Strength-Opportunities Strategies

S1-O1

Bringing in their expertise in renewable energy and carbon capture technology from overseas and implement it in their operations in Kemaman, Malaysia so they can have a head start in generating renewable energy to cater to the demand locally in Malaysia and South East Asia.

S2-O2

Further optimising their downstream processes to reduce carbon emission would be a good strategy as it would help the organization to achieve their own local target in carbon reduction. Furthermore, this would also lead them to be recognized locally as an organization which an provide optimisation services in reducing carbon emission as well as expanding their portfolio into green energy in the future.

Weakness-Opportunity Strategies

W1-O1

A comprehensive strategic planning will be necessary for Repsol to further expand their generation of renewable energy since there will be an increase in energy demand with Malaysia being a developing country. In addition to this, the strategy developed should be something of a long-term strategy since renewable energy and carbon capture technologies are expensive in the current date. However, continued adaptation of such carbon capture technologies will only drive down the price in the future. This would provide the organization with a healthier outlook in the future while trying to mitigate the impact of the pandemic in terms of assets acquired, liability, cash flow, revenue.

W2-O2

Process optimization is important if Repsol wants to continue rely on their petroleum-based operations while achieving their carbon emission reduction goals. Reducing petroleum product operations will only reduce their market share as petroleum is still in excess, cheap and the market is still in high demand. Hence, process optimisation and implementing carbon capture technology in such plants will be desired if Repsol

would want to achieve carbon reduction as well as not harming their current revenue prospect.

Strength-Threat Strategies

S1-T1

Since Repsol already have expertise in carbon capture, modifying current petroleum-based processes to reduce carbon emission as well as knowledge in developing renewable energy across the globe, waiting for government legislation to implement such changes would not be required. Technology transfer from their other plants will be cheaper and more cost effective rather than getting and external industry partner or consultancy to assist them in these developments. Here, it can be noticed that the strength or Repsol can easily mitigate the external threat exist in regards to reduction in carbon emission and development of renewable energy.

S2-T2

Repsol's core business has revolved around the utilisation of petroleum fuel in a myriad of products. The development of renewable energy should not be a looked as a replacement of petroleum fuel, but merely to supplement the growth in demand for energy. Since their operation used plenty of petroleum fuel, utilisation of methods to reduce carbon emission, such as process optimisation and employment of carbon capture technology would help in utilising their strength and mitigating the threat present.

Weakness-Threat Strategies

W1-T1

The high cost of niche carbon capture technology may be out of reach for Repsol since their loss in revenue due to the pandemic has led to their management in reducing the capital available for expansion and focus on maintaining current operations in their Resilience Plan detailed in their annual report. Hence, in this case, acquiring new carbon capture technology may be not feasible. One strategy which can be taken by Repsol would be discussing with local carbon capture companies in striking up partnership to share expertise in developing cost effective carbon capture.

W2-T2

Even though this is termed as weakness and a threat, the best strategy now would be actually ramping up their production of petroleum-based products and generating energy for local consumption as the opening of lockdowns has increased demands for such products. This can be a short boost in the coffers of Repsol, which can help them generate greater revenue and generate capital to restart abandoned and new projects.

2.6.6 Competitors Matrix Analysis

In the case study, a survey based on information available online and from annual reports were conducted based on the three competitors of Repsol in Malaysia in the energy industry. Competitor profile matrix (CPM) analysis tool was used to analyse the differences between Repsol and their two main competitors. Using this analysis tool, twelve (12) critical success factor were determined and can be related to the internal factors (Strength and Weakness) of Repsol Malaysia.

Table 2.4 Competitor profile matrix analysis of Repsol when compared to Shell and Petronas

		Repsol		Shell		Petronas	
Critical Success Factors	**Weight**	**Rating**	**Score**	**Rating**	**Score**	**Rating**	**Score**
Advertising	0.05	1	0.05	2	0.10	4	0.20
Domestic Market Penetration	0.08	2	0.16	3	0.24	4	0.32
Customer Service	0.03	3	0.09	3	0.09	3	0.09
Product Variety	0.03	2	0.06	4	0.12	4	0.12
International Market Penetration	0.08	4	0.32	3	0.24	2	0.16
Employee Dedication	0.04	2	0.08	2	0.08	2	0.08
Financial Profit	0.20	3	0.60	3	0.60	4	0.80
Customer Loyalty	0.04	3	0.12	2	0.08	2	0.08
Market Share	0.15	2	0.30	3	0.45	4	0.60
Product Quality	0.08	3	0.24	3	0.24	3	0.24
Top Management	0.12	3	0.36	3	0.36	3	0.36
Price Competitiveness	0.10	3	0.30	3	0.30	3	0.30
Totals	**1.00**		**2.68**		**2.90**		**3.35**

The CPM inputs shown in Table 2.4 were based on the organization websites, annual report and articles. Based on the analysis conducted, only two (2) significant factors with high importance, weight and rating were determined as compared to their competitors. This was expected because the analysis was conducted based on the operations of Repsol Malaysia only, which is a small branch as compared to the whole organization. The two (2) factors determined were discussed below.

International Market Penetration

Repsol is one of the biggest energy companies in the world. Their competitors, Shell and Petronas are also large international corporations but they have placed emphasis in their operations in Malaysia. Shell has been in Malaysia since the early 1900, helping the British in exploring oil fields whereas Petronas is the first and largest government owned corporation which oversees all petroleum-based operations. They are always given priority in Malaysia in terms of exploring oil fields and policymaking. Hence, Repsol is considered to be a small subsidiary here. However, they are one of the largest energy corporation in Europe, which underlines their international market credentials.

Customer Loyalty

Both Shell and Petronas are focusing on the same market, domestic energy consumption. This includes lubricant for domestic vehicles, petrol for the local population consumption. This is a fairly large market filled with plenty of competitors, which include Petron, Chevron and Exxon Mobil. This leads to a higher competiton between them, and this market is not Repsol's niche market. Repsol focuses on industrial applications as well as downstream processes here in Malaysia, which can be catered to both the local and surrounding communities. Hence, their market would have more loyal customers as compared to the former's target market which consist of high number of competitors.

2.6.7 Financial Information of Repsol Malaysia

The financial summary of Repsol Malaysia was extracted from their annual financial report for analysis. Table 2.5 shows the tabulated financial statement

Table 2.5 Tabulated financial statement for Repsol Malaysia

Income Statement	31/12/2019	31/12/2020		Percent Change
Revenues	$381,600,000,000	$328,900,000,000	-1	-14%
Cost of Goods Sold	509,460,000,000	34,465,000,000	-1	-93%
Gross Profit	(127,860,000,000)	294,435,000,000	-1	-330%
Operating Expenses	36,902,000,000	32,720,000,000	-1	-11%
EBIT	(164,762,000,000)	261,715,000,000	-1	-259%
Interest Expense	507,000,000	444,000,000	-1	-12%
EBT	(165,269,000,000)	261,271,000,000	-1	-258%
Tax	169,000,000	948,000,000	1	461%
Non-Recurring Events	0	0	NA	NA
Net Income	(165,438,000,000)	260,323,000,000	-1	-257%

Balance Sheet	31/12/2019	31/12/2020		Percent Change
Assets				
Cash and Short-Term Investments	$5,837,000,000	$3,197,000,000	-1	-45%
Accounts Receivable	0	0	NA	NA
Inventory	35,000,000	978,000,000	1	2694%
Other Current Assets	0	0	NA	NA
Total Current Assets	5,872,000,000	4,175,000,000	-1	-29%
Property Plant & Equipment	2,325,000,000	4,115,000,000	1	77%
Goodwill	0	0	NA	NA
Intangibles	0	0	NA	NA
Other Long-Term Assets	0	0	NA	NA
Total Assets	8,197,000,000	8,290,000,000	1	1%
Liabilities				
Accounts Payable	0	0	NA	NA
Other Current Liabilities	3,246,000,000	9,616,000,000	1	196%
Total Current Liabilities	3,246,000,000	9,616,000,000	1	196%
Long-Term Debt	4,220,000,000	3,042,000,000	-1	-28%
Other Long-Term Liabilities	0	0	NA	NA
Total Liabilities	7,466,000,000	12,658,000,000	1	70%
Equity				

Common Stock	14	8	-1	-42%
Retained Earnings	3,562,000,000	1,746,000,000	-1	-51%
Treasury Stock	1,844,000,000	378,000,000	-1	-80%
Paid in Capital & Other	0	0	NA	NA
Total Equity	5,406,000,014	2,124,000,008	-1	-61%
Total Liabilities and Equity	**12,872,000,014**	**14,782,000,008**	1	15%

Based on the analysis done, it is observed that the revenue of Repsol Malaysia dropped by 14%, from USD38 million to USD 328 million, with the drop attributed to the loss in income due to the widespread lockdowns. The organization also experienced lower operating profits due to the same reason. Most importantly, based on the income statement, the organization experienced a loss in total income of by more than USD300 million, which is more than 300% as compared to the year before. Their loss in revenue led to the organization disposing several assets, reducing their total asset while the lack of sales led to a stockpile in inventory. There was also increase in total liability and equity in 2020 as compared to 2019. Worryingly, the organization experienced a double in total liability as compared to 2019, from USD7.4 million to USD 12.7 million. The increase in total liabilities would mean that the organization used other sources to fund their operations, which means a positive cash flow into their balance book. However, it would also indicate that they would have purchased goods in credit to conserve their cash pile, hence increasing overall debt. This was done based on their management decision, as the organization would like to keep a healthy cash flow to ensure their financial health is in check.

2.7 Alternative Solution

With the issues pertaining Repsol Malaysia were recognised, defined as well as diagnosed in the previous parts of this work, two alternative solutions were suggested for each issue highlighted. The below section re-highlights the issue and a solution were presented in hand.

Repsol's drop in revenue of 14% over the course of the pandemic has led to reversing renewable energy expansion projects

The organization experienced a loss in revenue due to the lockdowns throughout the globe. Stop in operation, drop in demand for petroleum-based products, as well as the plunge in global oil price. This led to the organisation to change their management plan and devise the Resilience Plan, which was focused on the financial recovery post-pandemic. Here, focus has been placed in ramping up their petroleum-based products and sacrifice development of renewable energy as some of those assets were sold off to improve capital value and cashflow.

Malaysia's economic reliance towards petroleum sale may hinder Repsol to become a major player in Malaysia

The reliance of the local government in petroleum revenue would not encourage them to implement drastic policy changes in implementing renewable energy as well as reduction in carbon emission as this has the potential to directly impact the national coffers. Hence, a balance is needed to ensure no reduction in revenue from petroleum fuel as well as making sure Malaysia is in track with their international agreement in reducing their total carbon emission.

2.7.1 Alterative to Repsol's drop in revenue of 14% over the course of the pandemic has led to reversing renewable energy expansion projects

Below is the list of alternatives that can be taken by Repsol Malaysia in mitigating their problems.

Alternative 1 (Ramp up production in line with increased demand)
Since operations across the globe is reopening, it could be an opportunity that can be capitalised by Repsol Malaysia in ramping up their production line (*APPEC-Global Oil Demand Seen Reaching Pre-Pandemic Levels by Early 2022 | Reuters*, n.d.). Reports have shown that there will be a surge in demand for petroleum products. The is a disruption in the global supply chain for all materials, including energy and petroleum-based products, which is the market target for Repsol. They can use this window of opportunity to create a short-term solution in ramping up production for products to increase sales. Markets around Malaysia can also be

tapped into, such as Thailand, Indonesia and Vietnam. This can be a short-term measure to boost the revenue for the next few years as the organization recover from the financial distress due to the pandemic. Their refinery plant in Kemaman can be expanded in the short term, or they can partner with smaller refineries around Kemaman to assist them in producing more products.

Alternative 2 (Implement a different marketing strategy)
The market has definitely changed post Covid-19. The changes in the pandemic due to lockdowns and changes in operations have created a different demand in the market. Hence, the organization should change their marketing strategy in capitalising to the market. It is important to understand the changes in market and then adapt to them for maximum capitalisation (*Adapt Your Marketing Strategy for COVID-19 | Gartner*, n.d.). Based on reports, there is an increase in demand for consumer durables, medical technology as well as pharmaceutical and biotechnology (González Peña et al., 2021). This would mean a long-term change in terms on where the organization is going to in the future. As for now, Repsol does not have a department which focuses on medical related products. Necessary skill upgrade will be required for current employees as means to bridge the skill gap. Adaptability would be an important part that needs training as employees should be ready to adapt from their current operations into the new processes which would be imperative in ensuring the efficiency is maintained. The pandemic has shown that there is a huge market which can be tapped into and will be here for the foreseeable future. Repsol can take initiative to start changing their production line to cater to these markets, such as producing latex, plasticizers and raw plastic pellets from their refinery. The organization should also stem ahead and place more emphasis on renewable energy and reduce reliance towards petroleum fuel due to its market uncertainty.

2.7.2 Alternatives to Malaysia's economic reliance towards petroleum sale may hinder Repsol to become a major player in Malaysia

Alternative 1 (Reduce reliance on petroleum products in Malaysia)
The first alternative is that Repsol reduces the reliance towards petroleum product in Malaysia and invest in renewable energy. Malaysia is a country situated in South

East Asia, with mass potential for two different renewable energy sources, solar and wind farms. Since the country has a large vast of ocean space, Repsol can start to develop a plan to implement wind farms near their plant off the shores of Terengganu, Malaysia. Research articles have highlighted the fact that Malaysia has a vast potential in the renewable energy sector due to their geographical location as well as their natural resources (Abdullah et al., 2019). This would be a great deal and a win-win situation for both parties. There would not be any reduction in petroleum products which the economy is reliant towards and Repsol can contribute to the reduction of carbon emission as well as generating renewable energy, both appeasing the local government in their efforts to achieve their carbon emission goals.

Alternative 2 (Implementing carbon capture technology without compromising petroleum production)
Carbon capture technology is something Repsol globally have expertise, experience and technology for. Here, they can implement their own goals in reducing carbon emission as an entity, implementing their goals in all their plants across the globe, including Malaysia. Carbon capture technology can greatly reduce carbon emission in their production line, while maintaining their output. Process optimisation would require new technology, and employees would be required to have training as a form of upskill process (Mikołajczyk, 2021). Retraining employees rather than just hiring new ones have consistently shown to be the better option due to lower cost, faster assimilation as well as greater chance of success for strategy implementation. Rather than hiring new employees to conduct those processes, Repsol Malaysia can training their current employee. This would improve their human capital value, reduce the cost of rehiring as well as keeping employees who already know the values and work ethos of Repsol Malaysia.

2.8 Evaluation of Alternatives

A set of alternatives were devised in the section before based on the analysis, information and ideas gathered. Furthermore, before any comprehensive recommendation and implementation plan were proposed. Here, the importance, the feasibility and the effectiveness of all the alternatives proposed were evaluated. The alternatives were rated based on the performance of each of them and based on the decision criteria, respectively. Both sets of alternatives for the individual issues were evaluated in this segment. The statistics ranging from 5 to 1, with 5 referring to high importance, 4 being important, 3 being average, 2 being below average and 2 being of low importance.

Table 2.6 Evaluation of Alternatives for loss of revenue experienced by Repsol

Criteria for Alternative	Alternative 1	Alternative 2
Cost Effectiveness	3	4
Commitment	3	5
Business Impact	5	4
Implementation	4	4
Total Score	15	17

Based on the evaluation in Table 2.6 above for the first set of alternatives, it can be notices that the second alternative is more effective, feasible, workable and impactful as compared to the second alternative. Even though one alternative is more impactful from the other, doesn't mean that both cannot be mutually exclusively implemented in their next business plan. Both alternatives are able to assist Repsol in bridging the loss in revenue over the next few years.

Table 2.7 Evaluation of Alternatives in mitigating the reliance of Malaysia towards petroleum revenue

Criteria for Alternative	Alternative 1	Alternative 2
Cost Effectiveness	3	3
Commitment	4	5

Business Impact	5	3
Implementation	3	4
Total Score	15	15

Based on the evaluation in Table 2.7 above for the first set of alternatives, it can be notices that both alternatives would have the same impact towards the organisation. This would point to the fact that both alternatives are viable and would have the similar impact desired by Repsol Malaysia. However, as mentioned in the previous alternative analysis. Both alternatives can also be implemented as they are mutually exclusive from each other.

2.9 Recommendations

The previous sections have clearly identified, diagnose, analyse and devise with some alternatives to the main issues in hand. Here, the recommendations in order to mitigate the two main problem diagnosed in this work is presented.

Recommendations for Repsol's drop in revenue of 14% over the course of the pandemic has led to reversing renewable energy expansion projects

One of the main issues identified in this work was the fact that Repsol Malaysia experienced a loss in revenue of up to 14%. This led to the organization to implement a new strategic plan which is called the Resilience Plan to mitigate the after effects of Covid-19. This has several impacts towards the overall strategy of the organization, as they started to sell of some renewable energy assets as they are deemed to be less profitable as compared to petroleum energy assets. Furthermore, a reduction in working capital was also seen as it needed to tighten its cash flow on non-essentials or non-performing assets. A change in management mindset to be more efficient in their operations was also seen to improve efficiency so that they can come out financially healthy after this pandemic. These are good moves which were implemented by the top management, as their focus is to recover financially so that they can go back to their previous plan of expansion in regards to renewable energy, something that has been seen in their operations at other parts of the globe. In addition

to this, Repsol Malaysia can also collaborate with smaller refineries as means to outsource their work to improve production capacity in the short term. Expansion of their existing production line and refinery capabilities would require capital and time. With the receding pandemic, there is a small window of opportunity to capitalise with the increase in demand for petroleum-based product before a degree of equilibrium is achieved, similar to pre-Covid-19 times. Such moves can be a short-term strategy which helps to improve sales and revenue, without impacting their capital and operation cost. Secondly, Repsol should also explore in new markets which were created due to the pandemic, such as producing latex, plasticizers and raw plastic pellets from their refinery. They have the refineries, technology, expertise and also the capabilities to make these products without any external help. The top management needs to realise the gap present here so that they ca devise a proper strategy in making the opportunity count in terms of increasing the value of the organization. Hence, any development of management plan requires the entry of these alternatives so that there would be significant recovery in revenue for Repsol Malaysia over the course of the year.

Recommendations for Malaysia's economic reliance towards petroleum sale may hinder Repsol to become a major player in Malaysia

Polices are an important aspect of any country as those policies will shape how organizations would expand and develop there. In the case of renewable energy and carbon emission reduction plans, policies are an important part as petroleum sources are still relatively cheap and abundant in availability. Secondly, when an economy is developed based on its dependence towards petroleum revenue, it will be imperatively difficult to develop any policy which would increase the cost of such operation or reduce the profitability of those particular industry, which is the case of renewable energy and carbon emission reduction technologies. It is well known that implementing carbon emission reduction technologies will impart cost in operation, which could be reflected in the profitability of such operations, reducing revenue and profit. Hence, a lack of policy making in such sector would be difficult if energy companies would want to willingly implement carbon reduction technologies and expand renewable energy generation. Policies can help in reducing the cost of such implementation, such as

providing tax relief, double tax deduction, benefits for foreign or local investors. Hence, in this case, it is recommended that Repsol can reduce their reliance towards petroleum revenue and expand renewable energy generation as they have previous expertise and technology in such industry. Since Repsol is one of the smaller energies and petroleum companies here in Malaysia, change in direction will not provide a big impact towards the country's economic. However, this would provide Repsol with a head start in the expanding renewable energy market in Asia. Together with proper management plan in improving the value of their employees in regards to their know-how in renewable energy processes, Repsol Malaysia can further expand their capture in the market. Furthermore, it can be considered to be a winning situation for all parties, as Repsol's reduced reliance towards petroleum would reduce carbon emission, something Malaysia is also keen upon. Obviously, the government would not want Repsol to overtake Petronas in the renewable energy industry here. However, Repsol can get an early start to capture the second spot as the second largest renewable energy industry here, reflective to the fact that their operations in Malaysia is a small part of their worldwide operations.

2.10 Implementation of Plan

An implementation plan is developed for the recommendations of alternatives available to mitigate the two key issues highlighted in this work. They are summarized and presented below in Table 2.8.

Table 2.8 Implementation plan is developed for the recommendations of alternatives available to mitigate the two key issues

Issue	Mitigation Steps	2022			2023			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4
Repsol total net income for the financial year 2020 has dropped to 14% due to pandemic	Identification of short-term collaborators Confirmation on products to be collaborated, financial aspect, board meeting, quarterly projections Approaching potential collaborators/business planning Planning training and development for current employees, plan for technology transfer between them and collaborators Finalizing documentations and signing Memorandum of Understanding							

Malaysia's economic reliance towards petroleum sale may hinder government from implementing carbon reduction policies	Product quality check Finalizing supply chain for raw material and finished product Quarterly revenue analysis Yearly evaluation of employees on the new work process and further fine tune any issues with this Identification of tax relief schemes for renewable energy and carbon capture Cost analysis in implementation of carbon capture technology in Malaysia Developing business plan Cost analysis, implementation strategy of renewable energy expansion in Malaysia Identification of suitable location for wind/solar farm Negotiation with Malaysia government on lease for land/location, cost/benefit analysis Signing of Memorandum of Understanding with Government/Petronas for renewable energy development and human capital training programs Identification and approaching investors for renewable energy project

For the first issue which is the loss in revenue due to the pandemic, the first step that needs to be taken would be identifying short-term collaborators who could work with Repsol Malaysia in developing similar products as an extension to their current production operation. Identification of collaborators is imperative as they would need to find organization who have expertise in developing and producing similar type of products, such as heavy machinery lubricant, or other form of lubricants. They can also identify companies who specialise in medical equipment or producing latex, plasticizers and raw plastic pellets from their refinery. Upon identification, discussion on strategy, type of products produced, responsibility for quality control, breakdown on materials provided, profit loss analysis, implementation strategy before coming into agreement. All of these should be completed by the end of 2022 so that project can be commenced in early 2023. The start of production would be tentative, with small batches to ensure that the quality of Repsol is not compromised with external manufacturers. Repsol can lend their technology and expertise to ensure that the quality of products produced are of the gold standard Repsol is known for. Then, they can start to include the externally manufactured materials into their line of products, and then a quarterly analysis of their revenue can be done for the course of 2023 to

evaluate the impact of the small increment in production volume without long term asset and expansion investment.

The implementation plan for the second issue follows a similar timeline with the first on, with the remainder of 2022 and the whole of 2023 used. This should be considered to be a short-to-long term process, where the development of framework, discussion and implementation to be done within the first year. Repsol Management team have shown that they have the experience and capability in developing good strategies and framework to implement such long-term strategies. In this case, proper discussion with government parties dealing with renewable energy, which would be the Ministry of Science, Technology and Innovation (MOSTI). Developing a business plan in which renewable energy generation can be increased and how this would supplement the energy demand in Malaysia whist reducing carbon emission should be developed and presented to the ministry as means to show that Repsol has the strategy, initiative as well as the expertise in doing so. Tax reduction, support in terms of government grants and local investors can be in the discussion to assist Repsol in developing the renewable energy sector here in Malaysia. The business plan would also include cost-benefit analysis, locations on where solar or wind farms can be implemented with estimated power generation should all be devised and presented for agreement. Then, a Memorandum of Understanding can be implemented between the Malaysian government and Repsol Malaysia for this plan. It can be expected that most of the groundwork for his is to be completed by 2023, with planning and proposal to build the solar farms and wind farms in place for 2024 and beyond.

2.11 Conclusion

This study titled ‘Investing in the future: A case study to highlight the importance of venturing into the renewable energy business for an energy company in Malaysia’ provided a platform to understand how the pandemic has influenced the economic aspect of an energy company in Malaysia, and how management can play an important role to mitigate the adverse effect and provide the organization with a way forward. It also highlights on how energy companies can tweak their operation and processes, change and to devise new plans to navigate the constant change in the market they are operating in. The pandemic led to a drop in revenue which led to a

myriad of change in plans for the organization, such as process optimisation and reduced working capital, all which can restrict future expansion plans. However, this juncture in managing with the adverse market can be turned into a good staring or turning point to provide more focus on the future, which is the development of renewable energy and reducing carbon emission in industrial processes, something which is desired across the world as means to reduce reliance towards petroleum products as well as mitigating the adverse climate change due to carbon emission. Based on the analysis conducted in the first part of this work, the problem faced by Repsol Malaysia were identified and diagnosed, which was also evaluated using SWOT analysis. In the second part of the work, more analysis, such as PESTEL and 5P analysis were also done to further understand how both internal and external factors can impact Repsol in her current situation and also how they can be used to shape their next management strategy. This allowed the formation of different alternatives to mitigate and take the opportunity due to the changes in external economics, which include short term plans in increasing production with collaborators and expanding renewable energy generation and reduce carbon emission with collaboration with the Malaysian government. An implementation plan of 2 years was provided with major steps necessary to realise the alternatives in hand.

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APPENDICES

Appendix A: Questionnaire for Zoon Interview session

Question 1

Can you discuss a little about your current job scope within the management of Repsol Malaysia?

Question 2

What do you think are the major challenges faced by Repsol Malaysia as an organization in the renewable energy industry?

Question 3

Can you highlight some key strengths and key weakness that you think Repsol has as an energy company to compete in the renewable energy industry?

Question 4

As a current employee, do you think there is enough human capital development trainings provided for employees? If no, please elaborate.

Question 5

Do you think the top management took the necessary steps to mitigate the fallout in terms of profit due to the Covid-19 pandemic? If no, please elaborate.

Question 6

As a current employee in Repsol Malaysia, what do you think the top management should do to improve the human capital value among employees?

Question 7

As an employee, do you think Repsol Malaysia can venture into the renewable energy industry with the current facilities? If no, please elaborate.

APPROVAL PAGE

TITLE OF PROJECT PAPER: INVESTING IN THE FUTURE: AN ENERGY COMPANY'S JOURNEY TOWARDS RENEWABLE ENERGY

NAME OF AUTHOR : LOGASARITHAN NARAYANAN

The undersigned certify that the above candidate has fulfilled the conditions of the project paper prepared in partial fulfilment for the degree of Master in Management.

SUPERVISOR

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Graduate School of Business

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