

Mijn naam is Ton van der Marel, 21 jaar en onlangs afgestudeerd van de opleiding Logistiek en Economie aan de Hogeschool Rotterdam. Ik schrijf dit artikel naar aanleiding van mijn studiebeurs Topstudent Logistiek, uitgereikt door het Ministerie van Economische Zaken in samenwerking met KennisDC Logistiek. Tijdens mijn afstudeerperiode heb ik mijn scriptie geschreven bij Anthony Veder Rederijzaken B.V. Het onderwerp van mijn onderzoek is genaamd: "Shipping gas with gas". Met trots kan ik vermelden dat deze scriptie met een 8.5 is beoordeeld en dat ik met mijn scriptie in de finale van Het Beste Havenidee 2016 heb gestaan. Helaas heb ik deze prijs niet binnengesleept. De scriptie is in het Engels geschreven, omdat Anthony Veder Rederijzaken volledig in het Engels correspondeert. Hieronder bevindt zich een uitgebreide samenvatting van mijn scriptie:

"Shipping gas with gas"

Futuring: Inspired where possible, thoughtful where necessary

Introduction

Anthony Veder is specialized in shipping liquefied gas products and has developed long-term relationships with clients in the gas industry. Anthony Veder is operating exclusively gas tankers in all segments of the gas market, from CO² to ethylene and from Liquefied Petrol Gas (LPG) to Liquefied Natural Gas (LNG). Anthony Veder owns the majority of their fleet, but also operates gas tanker on behalf of other quality owners. Anthony Veder provides services for its clients with several types of contract structures: Contracts of Affreightment, Time Charters and SPOT market related.

The ambition of Anthony Veder is to be a gas shipping company that leads in safety, service and sustainability. More specific, gas is only gas (all types of liquefied gas). By 'lead' Anthony Veder means the top tier gas tanker operator. Safety means everybody home safe. Service means quality, from the very start. Sustainability means environmentally-friendly, long-term commitment and financial healthiness.

Innovation is a word that is used very often by Anthony Veder. For example, due to the rising demand of the countries around the Baltic Sea, Anthony Veder has built three new types of gas tankers, which can operate in the winter months to meet this rising demand. Due to this innovations, Anthony Veder is a fast growing company. Nowadays, the company has approximately 1.000 employees. Some big clients of Anthony Veder are Skangass and SABIC.

Anthony Veder is active on a very competitive market, the gas shipping market. The company wants to differentiate from its competitors. To achieve this, Anthony Veder is working hard on innovations and working in a safe and sustainable way. A solution for working in a sustainable way is to provide vessels with a gas propulsion. This has two main advantages, namely the reduction of pollution and cost efficiency. Anthony Veder has already put several vessels on the market with a gas propulsion. To be the competition one step ahead, Anthony Veder would like to know under which circumstances a dual fuel engine is cost efficient and feasible. There are many risks, which can lead to problems, when investing in vessels with a dual fuel engine. In consultation with Anthony Veder three risks are chosen to be investigated, because Anthony Veder formulated these three risks as most important:

➤ Development of bunker stations

This is the main problem, when Anthony Veder decides to invest in vessels with gas propulsion. The company has already taken large risks with the investments in the vessels with gas propulsion, because of the lack of infrastructure in the bunker stations for these vessels. In the current situation the two ships that run on gas are bunkered in the harbor of Teesport (UK), but if Anthony Veder decides to provide all new-build vessels with a dual fuel engine, the voyages of the company will be

worldwide. So, the problem is, based on the current trade lanes, where the most optimal bunker station has to be located.

➤ Development of bunker tariffs

Another problem is the development of the bunker tariffs of the different fuels. Is it proven to be profitable to provide new-build ships with a dual fuel engine? Which factors have influenced the bunker tariffs and how are these factors going to develop? These questions are answered in this research.

➤ Changes in legislation

Anthony Veder is aware of the coming stricter legislation regarding the pollution of the vessels. But what does this mean for the operational management of Anthony Veder? What are the current emissions legislation and what is the legislation going to do in the future? Does Anthony coop with this strict legislation? These are some questions that are answered in this research.

These three risks are elaborated during this research. The answer to these problems will lead to the answer of the main research question:

“Under which circumstances should Anthony Veder provide new-build ships until 2035 with a dual-fuel engine, taken into account the development of the bunker stations, bunker tariffs and legislation?”

Anthony Veder is highly interested in this research because this research gives answer whether Anthony Veder can sail in a more sustainable and cost efficient way. This research fits in the company’s vision of innovation and with this research Anthony Veder can maintain or even improve their position in the gas shipping market.

Firstly, a literature study has been completed to explore knowledge about scenario-building and current studies about the future of LNG as shipping fuel. Based on this literature study, the “Futuring”- method is chosen. This method divides the scenario-building process into four initial phases: 1. Problem description, 2. The mission/vision process, 3. The scenario process, 4. Making your vision and strategy solid. Furthermore, a survey about the (future) readiness of LNG-bunkering is sent to all interested ports and data analyses are established regarding future bunker prices.

Results

One of the most important results of this research is the development of the bunker stations. The LNG bunkering facilities of ports are growing rapidly. Almost every port, amongst the most visited ports is ready or has plans between 0-5 years to facilitate Anthony Veder’s LNG-bunkering process.

Another essential result of this research is the development of the legislation. The shipping industry needs to prepare for the introduction of a global cap, in which ships that trade in all waters, outside or inside an Emission Control Area (ECA), will be required to use fuel with a sulfur content not exceeding 0.5%. This stricter legislation must be implemented worldwide from January 2020. However, a study of the IMO, which must be completed before the end of 2018, discusses the possibility for delaying the implementation until 2025. LNG is suitable to comply with this new ECA limits, both Sulphur and Nitrogen regulations.

The scenario process starts with the bunker prices. There are three scenarios:

1. Oil-gas link continues:

The correlation coefficient shows a strong correlation between the historical MGO/LNG bunker prices. This correlation continues in this scenario. The prices of LNG/MGO are, calculated by a box plot, divided in a low, central and high case. In the low price case, the pay-back times of the dual-fuel engine are set at 8-11 years. For the central and high case the pay-back times are calculated in 3-4 years.

2. Oil – gas link disappears:

It is assumed that the European market is liberalized, which means that the oil-gas link no longer holds. New production comes on-stream and it, when combined with falling demand, results in a significant price fall. There is an oversupply of LNG in the Atlantic area as the United States approaches self-sufficiency and more United States production comes on-stream. Driven by government policy and strategy, Chinese natural gas demand could more than double between 2012 and 2020. Planned aggressive expansion of domestic gas production, particularly from shale gas development, will satisfy some of the demand increase, as will the expected import pipeline developments, shale development disappoint or pipeline expansions be delayed, LNG imports will increase even further. This results in a significant price fall.

Also, the upcoming LNG-bunkering facilities all over the world improve the supply chain, which results in lower supply chain costs. With all these forecasts, the prices of MGO and LNG are settled at respectively: €875 per tonne and €440 per tonne, which results in a pay-back period of 1-2 years.

3. Oil-gas link disappears: Worst Case Scenario:

There are no studies or sources that show that the bunker prices of MGO drop below the prices of LNG. However, this scenario is elaborated when this situation nevertheless occurs. Major events in the energy sector, for example Fukushima, could affect the bunker prices. This results in bunker prices, whereas a dual-fuel engine is not recouped in the lifespan of the engine (20 years).

Conclusion

The conclusion of my research is that Anthony Veder should only provide new-build ships with a dual fuel engine if the circumstances of the first two scenarios arise. Recommended is to keep monitoring the development of the bunker stations, bunker tariffs, legislation and all the additional risks to choose the right strategy.

Mocht u nog vragen hebben over mijn scriptie of geïnteresseerd in de volledige scriptie, aarzel dan niet om contact met mij op te nemen.