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Valuation of Vår Energi ASA

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Preface

This thesis is written as the end of the master's program: Business and Administration, specializing in Applied finance. The topic was picked because of my interest in the stock market, and therefore, I have written the paper as an outside investor/analyst. It has its basis in the information that is available on the internet.

The primary data is collected from Var energy's home- and investor page, the annual report available from 2021 and 2022, the corporate governance policy approved in October 2021 for 2022, and other financial pages. The aim is to use the available information and numbers to get an intrinsic value by forecasting Vår Energi's cash flows and determining if the price is under-, over-, or fair-valued compared to the current market price. All the calculations are in 1000.

Limitations for the paper; The estimations and analysis are based on published data, and the conversion time from Nok to USD can differ. This is visible when looking at the data from Brønnøysund register and Yahoo finance, where some values differ. The lack of inside information means that calculations must be based on previous data and assumptions.

Stavanger, 15.06.2023

-Marius Rimmereide-

Marius Rimmereide.

Executive Summary

This thesis aims to conduct a valuation of Vår Energi ASA and determine whether its current stock price is overvalued, undervalued, or fairly priced to the market. This study analyzes Vår Energi's financials, the oil and gas industry, and its competitors, including Equinor, ConocoPhillips, TotalEnergies, and Aker BP, the most relevant companies on the Norwegian continental shelf. By utilizing available data from sources such as Yahoo Finance, Nordnett, proof.no, and Brønnøysundregisteret, various valuation and forecasting methods are applied, including unlevered Free Cash Flow for the Firm (FCFF), Discounted Cash Flow (DCF), and Ratio analysis. These methods, combined with examining Vår Energi's annual reports for 2021 and 2022, aim to determine the company's intrinsic value. The Ratio analysis reveals that Vår Energi's economic situation is generally above average for the oil and gas industry, indicating strengths in future operations. The company has a Return on Equity (ROE) of 62.5%, compared to the industry average of 46.93%. Additionally, the Return on Total Capital (ROTC) and Return on Total Capital After Tax (ROTC after tax) for 2022 are 30.34% and 8.20%, respectively, indicating Vår Energi's ability to generate yield. The operating Margin and Profit Margin for 2022 are 65.12% and 9.57%, respectively. However, the liquidity ratios suggest that the current assets may not be sufficient to cover the current liabilities, indicating a potential liquidity problem. Vår Energi's capital turnover rate is low at 0.507x, and the equity ratio for 2022 is 7.8x due to the company's asset-heavy nature. The DuPont model confirms that ROE is consistent with profitability driven by profit margins. Comparable company analysis, considering EV/Revenue, EV/EBITDA, and P/E ratios, indicates that Vår Energi is operating above average for EV/Revenue and P/E ratios and slightly below average for EV/EBITDA ratio, demonstrating good performance relative to competitors. When using the median results from the analysis, Vår Energi is undervalued compared to its competitors.

Based on the FCFF calculations, which predict future net working capital, fixed assets, and cash flow, a steady increase is expected over the next five years, aligning with Vår Energi's goal of increasing production. The DCF valuation, using a growth rate of 3.5% and WACC of 5.66%, indicates an implied share price of $10.6 and an enterprise value of $294,013,341, which is significantly higher than the current share price of $2.5 as of May 25, 2023. This suggests that Vår Energi is undervalued and has growth potential in the future.

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Introduction

The thesis topic was chosen due to financial topics in the master's program and the interest in the stock market. The aim is to better understand valuation by studying Vår Energi and its business. Making the thesis topic

Valuation of Vår Energi ASA

This thesis aims to determine the intrinsic value of Vår Energi ASA. This is done by using different valuation and forecasting methods on the available data from the annual reports and financial web pages. The main goal is to determine if Vår Energi's stock price is under, over, or fair value compared to the market. This paper explores the ownership structure and the relations to the shareholders and stakeholders, delving into the oil and gas market to find Vår Energi's competitors, threats, weaknesses, and the overall competitiveness of the market.

The thesis covers numerous facets of the organization, including its ownership structure, competitive environment, financial performance, and intrinsic worth. The job involves thoroughly examining the annual report, strategic directives, and market environment of Vår Energi ASA. The limitation of the paper is that the only available information except for the stock price is from 2022 and earlier, which means that assumptions must be made in the forecasts. Based on the forecast, the future free cash flows (FCF) will increase in the next five years, setting the basis for the Discounted cash flow calculations. The implied Enterprise value was 294 013 341, the implied Equity value was 291 449 529, and the implied price per share is 10,6 dollars, a significant increase from the share price at the calculation date of 25.05.2023, which was 2,5 dollars.

The comparable analysis reports that Vår Energi is operating above average for the EV/Revenue and P/E ratio and just below average for the EV/EBITDA ratio. This shows that they are performing good in relation to their competitors. Using the median results in the analysis, the implied value per share tells us that these calculations also undervalue Vår Energi.

The economic ratio analysis tells us that the company is good at generating profits and managing its costs, with positive ratios like; Return on Equity, Return on Total Capital, Return on Total Capital After-tax (ROTC after tax), Operating Margin, and Profit Margin. However, it is shown that the current liabilities are not covered by its current assets, which means that Vår

Energi can have a liquidity problem if they are not able to keep up the positive free cash flows in the future. Vår Energi is an asset-heavy company shown in the capital's turnover rate that only came back with the result of 0,507x due to the property, plant, and equipment value being so high on the assets post. By these valuations and analyzing the strategies in the annual report, Vår Energi is expected to grow in the future, emphasizing that they are undervalued by the market.

Figure 1 - Illustration picture- retrieved from Vår Energi's home page. (Energi, 2023)

About Vår Energi ASA

Vår Energi is an independent oil and gas company that has been operating on the Norwegian Continental shelf for over 50 years. Their focus operation areas are The North Sea, the Barents Sea, and the Norwegian Sea. Vår Energi started its journey in 2018 through an active merger with Point Resources and Eni Norge. The ownership structure is now 69.6% owned by Eni and 30.4% by HitecVision. (energi, 2022). Vår Energi sells oil and gas to the Asian and European markets and aims to stabilize prices through long-term contracts and customer relationships.

Vår Energi has future and sustainability as their goal and aims to become carbon-neutral by 2050 and is actively reducing its carbon and environmental impact. Their strategic principles have their bases in the global and national environmental, social, and governance (ESG) and climate goals(Van Duuren et al., 2016) due to the overall sustainability trend and the Paris Agreement, which is a collaboration with all the countries in the United Nations (UN) to become carbon neutral by 2100 and to make sure that the temperature in the world does not increase by two or more degrease. (Norway, 2020) In the transition to carbon neutrality, the oil and gas will still be an essential part of the energy mix. Therefore, the production of gas on the Norwegian continental shelf will increase. With that, Vår Energi has its strengths in its size,

focus, diversified portfolio, growth potential, and rich history (energi, 2022). With the company's production mix selling to the Asian- and European markets, Vår Energi is a significant player in the sector. Therefore they have an essential ambition to be the safest operator on the Norwegian shelf, a leader in ESG, and by 2030 be a net-zero producer by this building a better future for the stakeholders and the society in general. (energi, 2022).

Vår Energi's position in the Norwegian energy industry is significant. With 50 years of success on the shelf, they have a unique insight into the operating areas strengthening the long-term plan for increasing production. They measure their success in employee satisfaction, value creation, sustainability, and safety. Through their strong position and core values, they feel safe that they can deliver a better future in a highly competitive market with volatile oil and gas prices and political pressure in environmental and climate change impacts. Vår Energi is structured with a mother company and the producing company Vår Energi ASA.

Ownership Structure

The are 29 025 shareholders owning 2 496 406 246 ordinary shares and 4 class B shares as of 31 September 2022. The top 20 shareholders have ownership of 91% of the overall shares. Where ENI International BV owns 63,08%, and Point Resources Holding AS owns 20,74% totaling in 83,74% and 2 090 463 028 of the overall shares.

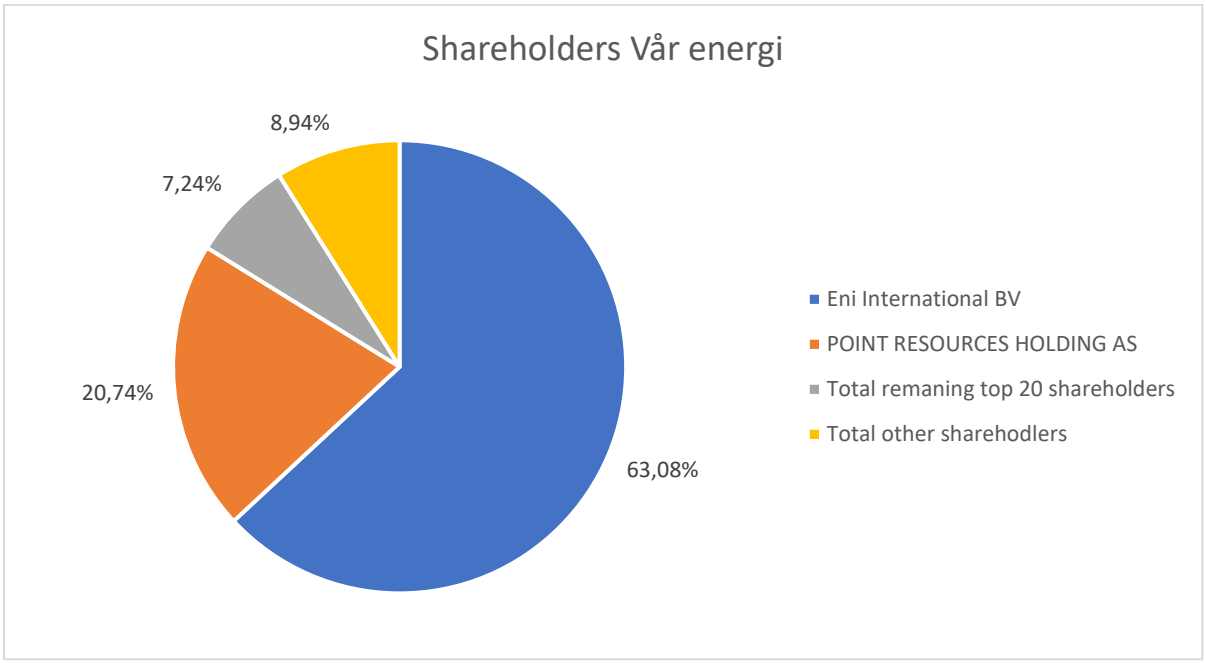

Figure 2 Shareholder structure

The Oil and Gas Industry.

The Oil and gas industry is a significant energy source for heating, electricity generation, and transportation. The industry involves everything from looking for the oil and gas to the distribution of the product, which involves exploration, development, production, refinement, refinement to bi-products, and distribution of gas and crude oil. It is a competitive industry where the global market's prices are moved by supply and demand. Political factors also determine who gets access to explore and drill new locations and the technology, distribution infrastructure, and transportation.

The industry is under significant regulatory and environmental pressures by different Governments worldwide regarding safety, environmental and social responsibility. There have been significant movements in oil and gas prices over recent years. This is due to oversupply, covid-19, and the supply and demand changes in the oil price. This has forced the industry to move towards renewable energy sources. Companies are constantly pressured to diversify their portfolios through acquisitions, mergers, or investments in innovative technologies. Despite its strict regulations and demand, the industry greatly contributes to the global economy. Moreover, several countries rely on the energy industry in their economy to generate economic growth and the job market. (Carley, S., Baldwin, E., MacLean, L. M., & Brass, J. N. (2017).

Theory.

Porters Five Forces.

Porter's five forces is a model analysts use to examine an industry or a competitive environment. The model is developed by Michael Porter and consists of five forces that influence how competitive or how profitable the industry is. (Belton, 2017)

Threats From Competitors.

If the industry is easy to enter, there will be a high threat for new competitors to enter the market, and the risk for new business and new patents is high. In Vår Energi's case, who are in the energy business where it demands money-heavy investments and demands considerable resources to get established in the industry. That is why it is difficult for new firms to enter and be competitive in the market. However, the competition from existing firms is high since they all can compete for the same license to explore new potential wells. When you first receive the contract, it is yours until the location is empty for a product or sold to a competitor.

Threat of Substitutes.

Substitutes are products that can replace a product or a service. If there is a high number of substitutes in the industry, the company is vulnerable to its competitors. Therefore, it is essential to develop modern technology and follow market trends constantly. Vår Energi is in the energy market. There is a constantly growing demand for energy, there is constantly evolving technology in this segment, and R&D is increasingly important. Vår Energi has the vision to become a Net-zero operator and ESG leader and decarbonize the oil and gas production. They are developing a floating windmill park. It has created new and innovative substitutes for oil and gas power, including Solar, wind, water energy, Biofuel, geometric energy, and nuclear energy. This, together with customer and political demands, pressures the oil and gas companies to focus on becoming green and environmentally friendly.

Bargaining Power of Suppliers.

This is the power the suppliers have over the firm. If the suppliers can dictate the terms, they have much power. Vår Energi as a supplier has a high bargaining power due to how accessible the oil and gas are. Therefore, the prices are reflected in this. Vår Energi has its suppliers as

well. This concerns service and maintenance and the energy sector is in constant demand. Therefore, they need products and maintenance as fast as possible. This gives their suppliers a high bargaining power over Vår Energi.

Bargaining Power of Customers.

How much power the customers have over their suppliers is determined by how accessible the product is. If one can get the product or a substitute everywhere, the customers have the highest power. From the perspective of fossil fuels cars and transportation, their suppliers have high power since there are no suitable substitutes to diesel and benzine for more extensive equipment, although electric cars, lorries, and equipment are growing in quality and durability. Time again, we see that the large actors dictate price incline or decline by over- or underproducing. When it comes to the energy side of the business, there are many substitutes, and then the customers have more power. Regarding the world price for oil and gas, it is controlled mainly by OPEC, Russia, and USA, who have a high market power and can therefore move the price up or down by over- or under-producing, limiting the bargaining power of price from the customers.

Competition Among Existing Companies.

If there are many competitors or companies with considerable market power, the competition to get the consumers is challenging. This competition can result in lower prices for high-quality services and products. This competition can also have considerable benefits like innovation and cost reduction. The negative aspect of tough competition is that the small actors will struggle to profit from the lower prices and need for R&D and may fail. This again gives more power to the large actors. Looking at the licenses on the continental shelf, we can identify Vår Energi's competitors as ConocoPhillips, Equinor, Aker BP, TotalEnergies, Norsk shell, Lundin, Wintershall Dea, Neptune, Chrysaor Norge AS, Okea AS whom all have licenses to drill on different sights. However, not all of these are drilling and have subcontracted their license to the big actors.

P.E.S.T.L.E.

PESTLE is a framework that uses external macroenvironmental factors that can impact an organization or industry. PESTLE is short for Political, Economic, Social, Technological, Legal, and Environmental. The model is used as a tool for analysts to get an understanding and to be able to respond to external forces, thereby assessing risk, adapting strategies, and identifying opportunities.

Political factors: the Political factor looks at the influences made by the political systems, government policies, regulations, and the stability of an organization. This includes political ideologies, labor laws, government stability, taxation, and trade restrictions.

The Norwegian government aims to reduce greenhouse gas emissions (GHG), which aligns with the Eu climate strategy. This makes it a global political pressure to reduce GHG emissions. The Norwegian government has a high special tax rate which is put on top of the ordinary taxation for oil and gas firms, making the total average tax rate about 71%. Political instability in other oil-producing countries can significantly affect the global oil price. Emphasizing the importance of price hedging instruments, and long-term contracts

Economic Factors: The Economic factors are both internal and external factors. They can be economic growth in revenue, sales, cash flows, etcetera. They are also external factors like inflation, interest rates, consumer spending patterns, and unemployment rates.

Vår Energi has the aim to reduce their production costs and also the purpose to increase their production from 220 to 350 kboepd (Thousand barrels of oil equivalent per day). They also have to goal of distributing 20-30% of the Cash flow from operations as a dividend, making Vår Energi a stable and attractive investment. As page 116 in the 2022 annual report states, Vår Energi aims to manage commodity price risk through commodity price hedging instruments and fixed-price gas sales contracts. (energi, 2022)

Social Factors: The social factors look at demographic, cultural, and societal trends which can influence the company. These factors are based on costumes, attitudes and behaviors, social values, education levels, health and consciousness, population demographics, lifestyle preferences, etc.

Vår Energi has high health and safety standards and an increased focus on Economic, social, and Environmental (ESG) standards and regulations set by the government, industry, and internal strategies, which is, among others, stated on page 12 of the annual report. Vår Energi focuses on creating value for its stakeholders while respecting the environment, people, and

society by supporting the UN Sustainable Development Goals. Their ambition is to become an ESG leader in the industry, motivating their competitors to follow the trend.

Technological Factors: This factor examines the impact of technological advancements and innovations in the industry. Automation, digitalization, Research and development (R&D), rate of technological change, activity, and emerging technologies are among the factors that are analyzed at this level.

Vår Energi aims to apply a factory-based approach to standardize and simplify subsea tie-ins and deliver an average break-even of around 30 dollars per barrel across the project portfolio. They are using technology to reduce the production cost across their whole operation span. R&D is an essential step in their future activities, developing technologies and instruments to maximize their recovery and successful explorations and using advanced technical solutions to support growth, operational excellence, and safety.

Legal Factors: There are many laws, regulations, and legal frameworks for the oil and gas industry to ensure the environment. Some restrictions apply to everyone who is an employer. There are differences in these regulations in different countries. Therefore, it is essential to understand them for both the base office and the country you are working in if you are working in another country, you are from.

In Norway, the regulations are straight, and the government focuses on employee and environmental safety. The government has constructed straight sets of regulations and requirements for the oil and gas companies operating on the Norwegian Continental Shelf.

Environmental Factors: Environmental factors are the ecological and environmental aspects like climate change, environmental regulations, sustainability practices, availability of natural resources, waste management, and ecological assessments.

Vår Energi is highly ambitious to reduce its GHG and achieve net zero by 2030. They have implemented strategies like reducing flaring (burning excess natural gas in the oil extraction), running compressors at 50% load capacity, increasing energy efficiency in their operations, etc. Vår Energi's operations have the potential to impact the environment, and the company includes potential environmental impacts in its procurement process and investment decisions, creating a carbon credit policy to encourage emission reduction and promoting sustainable practices.

Forecasting ratios

Return on investment (ROI)

Return on investment is a financial instrument that is used to measure how profitable an investment or multiple investments are. It is calculated by dividing net earnings (costs subtracted from Income) by the total investment. This gives a percentage, and the high percentage illustrates a high profitability.

Return on Invested Capital (ROIC)

Return on invested capital is e measurement of how well-invested capital is being allocated. With ROIC, you will understand how effectively the company invests its capital to generate yield. ROIC looks at both Debt and Equity. To find This, you must divide Net operating income after tax by the invested capital, which is equity and debt. ROIC is essential to evaluate how well the company generates yield for its investors and stockholders.

ROIC Before Tax

Return on invested capital before tax is different because now you can look at other companies with varying tax rates or companies located in different countries. The difference from ROIC after tax is that here you use EBIT (Earnings before interest and tax) instead of NOPAT in the Numerator and again the invested capital in the denominator.

Operating Profit Margin.

Operating profit margin is a performance measurement that is used to evaluate how much profit the company is making per dollar from its business. To calculate the operating profits, one must divide the operating income by operating profits and then multiply that number by one hundred to get a percentage result. When calculating the operating profit margin, you get an understanding of how effective the company is operating and how much of the profits are generated for every Dollar/Nok from the operating income. If the operating profit margins are high, that would indicate that the company has lower operating costs regarding the operating income and therefore generates a high yield from its business.

Turnover Rate.

The turnover rate illustrates how many times a company has sold its inventory within a given period. It is calculated by taking sales cost by the average inventory in the same period. The turnover rate tells you how effectively the company generates sales and how they manage its inventory. If the rate is high, it tells us that the company is doing a good job of rolling their inventory. Furthermore, the low rate tells us that the company has trouble selling its inventory. The turnover rate has an extra relevance in production and retail, where the turnover can impact the economic performance of the company.

Capital Expenditure on Revenue (CAPEX)

Capex is the amount of money a company uses to buy or upgrade its fixed assets and equipment, which will have a long-term value for the company's future. This is the warehouse, machines, buildings, or computers. It can also include investments in Research and development (R&D) or intangible assets like patents or licenses. Capex differs from operating expenses because it accounts for the more significant expenses, which demand a larger expense post for the company and long-term financing. The operating expenses are the daily expenses like power, rent, or employment payment. Capex can influence future revenue and economic performance and influences the company's balance because it can change the company's assets, cash, and debt.

Net Working Capital on Revenue (NWC)

NWC measures the difference between a company's short-term assets and short-term debt. Short-term assets include cash, Accounts receivable, and Inventory. It includes other resources that the company expects to be turned into cash within the year. Short-term debt includes short-term loans, accounts payable and other expenses that are expected to be paid within the year. If the result is positive, the company has a higher short-term asset than the short-term debt. Thereby the company can meet its short-term economic commitments. And if it is negative, it shows the investor that the company has more short-term debt than short-term assets. NWC can be used to compare companies in the same sector or business, which indicates how the company can maintain a healthy cash flow and ability to meet the short-term economic risk.

Growth Rate.

The growth rate can be determent by looking at how much of the earnings that are reinvested back into the firm and how well these are reinvested. So, you can look at it as a product of the retention ratio, which is how much of the income that is not paid out as dividend but reinvested into the companies. The growth rate expresses the change as a percentage. (Reilly, 1995)

Liquidity Risk.

This shows the firm's ability to meet its commitments and pay its debts. If the company has low liquidity, it is more exposed to inflation, increased interest rates, and higher costs in general, which can have an impact on the cash flow. There are different steps to improve and lower the liquidity risk for the firm; the first is to try to improve the cash flow, talk to the bank to extend the due date on its loans, improve the turnover rate and inventory management, etc. **Long-term liquidity risk** refers to the long-term investments and projects that demands more significant amounts of capital, which must get larger capital from a bank or investor a high long-term liquidity risk will give a higher demand on the return from its investors. **Short-term liquidity risk**. This refers to risks that are expected to be repaid within a year. Employment pay, supplier debt, and accounts receivable. To reduce the short-term risk, you must increase the cash holdings, get better credit scores, and improve accounts receivable.

Strategic and Financial Value Drivers

Value drivers are often categorized as financial and/or strategic. Drivers help to create value for a company. This is done by generating increased income and profits or by improving the company's market position. Examples for improvement for strategic drivers can include improving the supply chain, developing new innovative products and services, and generating a more robust brand name and higher customer satisfaction. Examples for improvement for financial drivers are improvement of capital allocation, workforce capital, cost reduction, and improving the income and revenues. Companies must understand and be able to influence these drivers in both the short-term and, most importantly, the long-term perspective.

Strategic Value Drivers

Strategic drivers are key factors that shape the organization's direction and strategy. They are internal and external and influence the organization's decision-making. The strategic drivers influence market trends, regulatory changes, competitive pressure, consumer preferences, and technology.

Vår Energi's strategic drivers are based on being a leading independent upstream oil and gas company on the Norwegian continental shelf by reducing production cost, increasing production to 350 kboepd by the end of 2025, being the safest operator on the shelf (energi, 2022) the increase is due to Vår Energi's natural increase in production. They strive to improve efficiency to ensure sustainability and profitability, good infrastructure and improving digital technologies and processes, and improving environmental performance, safety, and efficiency. Having the employees in focus is an important strategic value for Vår Energi.

Financial Value Drivers

Financial drivers can include revenue growth, cash flow, ROI, debt management, profitability, and more. These drivers are important aspects to manage to achieve the company's financial goals and objectives. Crucial factors for Vår Energi are its oil and gas production, development of projects, cost management, long-term value creation, access to capital markets, and dividend expectations from the investors. In the tough competition in the energy markets, cost management is important to be a stable contributor, deliver dividends, and re-invest in new projects. Vår Energi aims to grow revenue through further exploration, acquisition of new assets, cost management, and optimization. Thereby having a stable cash flow to deliver dividends to the shareholders. Dividend has a high focus; the goal is to distribute between 20 and 30 percent of the cash flow from operations.

Forecast Based on Strategic and Financial Statement Analysis.

This method is to look at the company's strategic and financial situation to try and predict the future results. Factors to consider include economic growth, market power, the change in market trends, and overall market change. The Strategic part involves looking at the long-term strategies and goals which can impact future growth and income. This includes looking at how the company can improve its competitive advantage and keep generating new products and services. The financial part looks at history and tries to forecast future growth. The typical factor

in financial forecasting includes costs, income, revenues, debt, equity, equity capital, and cash flow. With these two forecasts, it can give you an insight into the future expected results.

Revenue Growth

The growth in income from one given period to another shows the change as a percentage. An example of this could be a 2-year period $(Y_2-Y_1)/Y_1*100$). If you see a high increase, it illustrates that the company's products have a high demand for its services and products. If the growth is low or negative, it is a warning sign for investors and the management that something is wrong.

Profitability

Profitability refers to the company's ability to generate profits over time. To measure this, you use key figures like invested capital, profit margin, and gross margin. **Profit margin** illustrates how much of every dollar/Nok income is left as a profit after all the costs have been paid. **Gross margin** illustrates how much of every dollar/Nok earned covers the costs. **Yield** is invested capital, which shows how much profits the company generates regarding the invested capital in the company. High profitability is essential for the investors and stockholders. It tells if the business model is good and can generate income. Low profitability can, for instance, tell you that the company is good at managing its costs or that it is operating in a business with high competition and low margins. It is important to note that low profitability can, for an outsider, look bad. However, it does not have to be bad because the company can invest in growth, which will impact the short-term profitability.

Depreciation

Depreciation is a tool you use in illustrating the reduction in value of an asset over time. It is done because of wear and tear or because the technology is evolving or needs updating. Depreciation is a means to distribute the costs in the accounts over the assets' expected lifespan. The two most normal methods are straight-line depreciation, where you take the expected lifespan of the assets and divide the cost even over the same lifespan. An example: A machine expected lifespan of 10 years, price is 100. Yearly depreciation is 10 and balance method. It is often used when calculating the value regarding taxation, where you depreciate a given percentage every year. Example: Take the same machine with the price of 100 over a 10-year period, with 20% depreciation, then year 1 will be 20, and the rest value is 80, then for year 2, you take 20% of the rest value and onwards for the remaining years).

Capital Expenditure (CapEx)

CapEx is an expense that a company does to acquire or update a long-term asset like a building, property, machine, or other technology and equipment that is relevant to its business. This is a long-term and large capital-demanding asset'. And often, it does not affect the operating results in the short horizon,

Investment in Working Capital (NWC)

Investment in NWC is the funds a business must invest in short-term assets to sustain the growth and maintain the business. Therefore, NWC is a crucial factor when analyzing a firm's health. The company must have a healthy liquidity to pay its short-term costs like employee pay, purchase of goods inventory, and outstanding invoices. If the NWC is positive, it means that the company can keep growing and investing in the future. Monitoring the investment in working capital is essential to ensure it is optimized for the company's needs. If it is high, it can mean that the company has too much inventory or that the company is not able to demand its accounts receivable in an acceptable manner. If it is low, it can mean that there could be a liquidity problem and are not able to meet the short-term liabilities.

Forecasted Free Cash Flow to the Firm (FCFF)

forecasted FCFF is a measurement used to estimate the amount of cash the firm will generate after you retract the expenses, taxes, and NWC. This is a crucial estimate when evaluating the health and potential growth opportunities. It tells you how much of its cash can be generated by the business and investments to be used to pay its debt, pay dividends, or invest in new projects.

$$FCFF = EBIT * (1 - tax\,rate) + Depreciation - capex - \Delta NWC$$

Equation 1 FCFF

- EBIT (earnings before interest and taxes)
- Tax rate, the tax rate the business pays.
- Depreciation is the devaluation of an asset over time.
- CapEx is the capital expense that is needed to maintain its business.
- ΔNWC is the change (Δ) in the working capital for year to year.

FCFF is a useful tool for the investor to analyze the firm's health and future potential. Thereby you can compare the results to similar firms.

Fundamental Analysis.

Fundamental analysis is a method to evaluate a company or a stock. This is done by looking at its fundamental factors, which include the financial, economic, and other quantitative and qualitative factors. The task is to set the real value of the company or the stock, then compare it to comparable companies. This will give you an idea if the company is at a fair price, underpriced or overpriced. When looking at the economic factors, you look at the income, the growth in income, liquidity, and profit margin. The financial factors include the cash flow, debt, balance, and profitability. And the qualitative and quantitative factors may include the company's management, the reputation, market trends, and competitive advantages.

In fundamental analysis, there are used different tools: In **Accounting analysis,** you evaluate the company's financial statements to determine the reliability and to identify any issues. **Ratio analysis,** where you compare the financial performance using different ratios and **Discounting models,** is a method to determine the present value of Free Cash Flow (FCF) and determine future value to present value. This is done by using the Net present value (NPV) method and Internal rate of return (IRR). By making a fundamental analysis, the investor will get an understanding of where the company is economically situated and what its future potential is.

Present Value Approach (NPV)

This method is used to evaluate an investment or an investment project. This is calculated by finding the present value of the future cash flow. This approach is based on the statement: A dollar today is worth more than A Dollar in the future due to the time value of money (Titman & Martin, 2016). For this approach to work, you must estimate all the future cash flows generated by the investment. Then discount them to present value. The discount rate is set by the investor's demand for the project. The higher the discount rate that is demanded by the investors, the NPV will be lower on the investment. And vice versa. This approach is often used on investments that demand a high capital investment or long-term investments. Furthermore, it is a good measure to compare different investment opportunities.

Discounted Cash Flow Approach (DCF)

This method evaluates a company's investment by estimating the present value of the future cash flow expected to be generated by the investment. It takes the same approach to time value as money as NPV and is also calculated using a discount rate. Estimating the future cash flow demands you analyze the company's historical results, the economic trends, and the market conditions. Based on the risk of the project, one can get an understanding of the discount rate that will be demanded. The DCF method is used to evaluate the company's assets.

Cost of Capital (COC)

The cost of capital is the required rate of return that the investors will demand for investing in the project. Thereby it is used to determine if the investment will generate adequate yield to cover the costs. You can look at two different components of COC, debt cost, which is the interest cost on the debt capital, and equity costs are the required rate of return from investors. The latter is often higher because of the investors demand more for risk. To find COC, you must weigh the debt and equity relative to the company's capital structure. This is called the Weighted average cost of capital (WACC) and is used to understand if the investment can cover costs. COC is difficult to calculate because you must determine the correct required rate of return (ROR) for the debt and the equity, and it is also important to understand the market conditions and the company's risk profile.

Weighted Average Cost of Capital. (WACC)

It is the weighted average cost of capital for the firm for a company and uses the WACC as the required rate of return on the investments. To calculate the WACC, you need to know the cost of debt and equity. Debt is based on the interest rates on the outstanding debt and is easy to find, the cost of equity is, however, a more difficult challenge because it is based on the equity investors' required rate of return. The cost of equity can also change with the market risk and company risk profile. After calculating the debt and equity, you must look at the weighting of the company's capital structure. An example can be 70% debt and 30% equity. The WACC tells you that the yield will cover the costs, so if the WACC is higher than the yield of the investment, the project is not profitable. If the WACC is lower than the yield of the investment, it is a promising investment.

$$Wacc = \frac{E}{E+D} * r_e + \frac{D}{E+D} * r_d * (1+t)$$

Equation 2 WACC

- E = Market value of equity
- D = Market value of debt
- V = E + D = Market Value of the firm
- T = Tax rate
- r_e = Cost of equity
- r_d = Cost of debt

Risk-Free Rate.

The risk-free rate is the yield that is expected from an investment that is risk-free. For example, an investment that is guaranteed by the government or another institution, thereby making it risk-free for losing your money on the investment. The risk-free rate is used as a reference rate in financial modeling to calculate the yield in an investment with a higher risk. Higher risk demands higher yield. Note that the risk-free rate is not always the same in every country and is often correlated with government bonds. In America, it is usually based on the 10-year US treasury bonds.

Beta Estimation.

Beta estimation is the prosses of calculating the beta coefficient on a portfolio or stock and is a measurement of the systematic risk that cannot be diversified away by making other diversified investments. Beta estimation is a complicated calculation, and using different methods will give different results. Therefore, a combination of methods is to be advised to get an accurate result of the beta coefficient. Examples of beta estimation methods are **History beta** which is the calculations that are based on historical data and compare it to the marked index over the same time horizon. **Regression analysis** is the process of making a regression analysis of the stock or portfolio yield and the marked index yield. The Beta is then illustrated as a line that describes the relationship between the Stock and the market index. **Analyst estimates** are taking estimates from different financial analytics on the stocks' future yield and then comparing the results with the expected yield on the market index.

Market Risk Premium

The market risk premium is the extra yield demanded by an investor to invest in a stock instead of investing in a risk-free investment like a treasury bond or bank deposit. The premium is the difference between the expected yield in the stock market and the risk-free rate. The market risk premium can differ from market to market and is influenced by different economic and political factors, rent levels, and other market factors. The market risk premium is used by investors to calculate the costs of equity when making a valuation or capital budget analysis. It is, for example, used as a factor in the capital asset pricing model (CAPM) to estimate the expected yield, which is demanded by the equity of a company.

Return on Debt (ROD)

ROD is a performance indicator that measures the risk and health of the company. If the ROD is high, that tells you that the company is debt-heavy and has considerable risk. A low ROD tells us that the debt balance is healthier and has a lower risk. ROD is a good indicator to compare with similar firms, but one must be careful because it is difficult to accurately calculate the debt structure and interest rate levels. It is also an ever-changing indicator, meaning it can change over time. Therefore, it should be used together with other indicators and factors to get a reliable picture of long-term health.

Capital Structure.

Capital structure is the combination of the firm's financing, which is often the time a combination of debt and equity. This combination can profoundly impact the risk level and health of the company. High debt means it has more risk and, therefore, a higher required rate of return and higher interest rates from the bank. However, the elevated risk can also mean a high reward for the investors when the company is doing well. When analyzing the capital structure, it is normal to use the debt ratio as the relationship between debt and equity. If the debt ratio is high, it indicates a high financial risk and tells the investor that the company is highly dependent on its debt holders. To get an idea of whether the debt ratio is high or not, you have to analyze the business that the firm is in.

Terminal Value. (TV)

Terminal value is the value of an investment at the end of a forecasted period. When using the Discounted cash flow method (DCF), the terminal value is used to estimate the present value of forecasted cash flow (CF) after the forecasted period. There are different methods to calculate this. You can use the perpetual growth rate on forecasted cash flow, which is the perpetual growth model used to calculate the TV.

$$TV = \frac{FCF * (1 + g)}{discount\ rate - g}$$

Equation 3 Terminal Value

In this instance, FCF is the last CF of the forecasted period, and g is the growth after the forecasted period. The discount rate is the required rate of return that is used in the DCF. It is important to have a realistic mindset when estimating the growth rate and the rate of return. The TV is a large part of the valuation. If the investment has a too optimistic growth rate or rate of return, it can make you overestimate the value of the investment.

Sensitivity Analysis

Sensitivity analysis is a tool used in financial modeling to check how sensitive the output in a model is to change in the input. Sensitivity analysis is used to evaluate the effects of the change in input variables like CapEx, operating margins and revenue growth rate, and others. Steps to make a sensitivity analysis can be identifying key drivers relevant to the valuation. Defining the range of the values, like 5% up and down, to see what the effect of the change is. Calculate what the impact of the change is, like what happens if CapEx increases by 5%, and then evaluate what the result of the analysis is and determine what drivers are the most sensitive to change in the valuation. (Taylor, 2009)

The key takeaway from the annual report is that impairment or reversal of impairment of assets and goodwill will be affected by fluctuations in oil and gas prices, production, and the discount rate. A significant reduction may result in long-term projects and business plans used in the estimating of assets recoverable amount. The financial risks in the report are commodity price risk, currency risk, interest rate sensitivity, funding, and liquidity risk. According to the report, Vår Energi has established a hedging program to protect cash flow from oil and gas sales and through fixed gas sales contracts. The main currency risks relate to the long-term borrowing of the USD. The sensitivity analysis demonstrates that the effect of a change in the USD/NOK

fixed rate affects the profits before tax. The floating interest rates are a significant source of risk for the company and affect the borrowing from the company.

Accounting Analysis

Accounting analysis looks at the company's financial statement. The goal is to try to determine their accuracy and reliability, identify any potential errors or issues, and also the quality of the reporting. The first step is trying to understand how the company reports its revenues, when it is reported, and when it is recognized. Does the company record the expenses when a sale or purchase occurs or when the bills have been paid. How realistic are the assets priced? How are the liabilities calculated? For example, looking at the interest rate, which is essential in the calculations of the present value of future commitments. Additionally, the company's cash flow is a big part of the analysis to check if the cash flow is accurate regarding operations, investing, and financing.

Ratio Analysis

Ratio analysis looks at different financial ratios to get an understanding of the company's health and performance. **Efficiency ratios** are when you examine how efficiently the company uses its resources. A good efficiency ratio is the inventory turnover ratio and assets turnover ratio. **Profitability ratio** analysis looks at how the company generates profits. Here you can use gross profit margins and ROE. **The liquidity ratio** measures a company's pay for its short-term obligations. This can be done with the quick ratio and current ratio, and use **Solvency ratio** to measure the company's ability to pay long-term obligations. To assess this, you can use the interest coverage ratio and debt-to-equity ratio. Then, to conclude the ratio analysis, you compare your results to similar companies.

Discounting Models

Discounting models are a tool used for financial analysis; the goal is to find the PV of the future cash flow. The models take the basis in the value today due to inflation and the time value of money. Money today is worth more than money tomorrow. The most common models are Net present value (NPV), where you calculate the present value of the expected cash flow after discounting them so it has the present value. And the internal rate of return (IRR) model, which calculates the discount rate that makes the PV equal to the investment. These models tell you if

the project is good or bad. Furthermore, you can also use the results as a comparison to similar companies.

NPV Formula.

$$\boldsymbol{NPV} = \frac{\boldsymbol{CF_1}}{(\boldsymbol{1}+\boldsymbol{r})} + \frac{\boldsymbol{CF_2}}{(\boldsymbol{1}+\boldsymbol{r})^{\boldsymbol{2}}} + \cdots + \frac{\boldsymbol{CF_n}}{(\boldsymbol{1}+\boldsymbol{r})^{\boldsymbol{n}}} - \text{initial investment}$$

Equation 4 Net Present Value

IRR Formula.

$$Initial\ investment = \frac{CF_1}{(1+IRR)} + \frac{CF_2}{(1+IRR)^2} + \cdots + \frac{CF_n}{(1+IRR)^n}$$

Equation 5 Internal Rate of Return

- CF = Cash flow
- r = Discount rate
- n = expresses future time-period.
- IRR = internal rate of return

Valuation of Vår Energi ASA.

Fundamental Analysis.

Unlevered Multiples/Enterprise Value.

An asset can be financed by equity from the firm or by borrowing. This is illustrated in the balance sheet equation; Assets = liabilities(debt) + shareholders' equity. It is not always the case that the amount of debt relative to the equity is relevant. Therefore, the price multiple for that item should not be reflected in the leverage. To find what is relevant to the leverage, we can take a look at Figure 1.1 in Financial statement analysis and security valuation (Penman & Penman, 2007)

$$Value\ of\ the\ firm\ =\ Value\ of\ debt\ +\ value\ of\ equity.$$

Equation 6 Value of the firm

The unlevered value is the value of the firm – or the value of the enterprise – that is, the value that is independent of the amount of debt relative to equity.(Penman & Penman, 2007) When calculating the Price to sale (P/S) relationship, it is easy to think that you can take the firm's market value based on the stock price divided by the number of shares, but then you will not have the unlevered value of the leveraged value. The value of the firm is generated by the assets of the firm and not the equity. By calculating the levered value, the results can be higher due to how much an asset is financed by borrowing. Furthermore, the valuation of the firm can give the wrong value. Price/EBITDA (Earnings before interests, taxes, depreciation, and amortization) is also a commonly used multiple in valuing a firm. This comes with a risk that one does not consider the tax and interest that are paid by the company. However, there are different tax rates if you value a firm or project over national borders. Therefore, it can be helpful to remove the tax from the equation to get a multiple to value regardless of the difference in tax ratios and different rules of depreciation and amortization.

P/E Ratio and Dividends

There are pitfalls when calculating P/E. For example, there are trailing P/E and leading-/forward P/E ratios. This has to do with the payout of dividends. If the P/E is 10 and the earnings are 15 million, you would assume that the value of buying the firm is 150 million. However, what if

the firm pays out a 50% dividend on its earnings? Then you can potentially lose 5 million in dividends or the value of the firm to the old investors. If you do not have dividend rights, you will receive the firm's ex-dividend value, which is now 145 million. Therefore, it is essential to get a discount on the price or buy the firm cum-dividend, which includes the dividend.

The trailing P/E ratio is calculated by dividing the stock price by the Earnings per share (EPS) for the last 12 months and is a backward-looking ratio. Paying out dividends normally affects the stock price. In a normal market, the price drops by the amount paid in dividends and thereafter will come back up to the original value. How fast or slow the normalization period can be affected if the dividend meets the expectations of the investors/shareholders. (Titman & Martin, 201 p.77-836) Vår Energi has a goal of generating between 20 and 30 % of the cash flow from 2023 and onwards. Having a stable dividend policy will stabilize the share price and make it more popular for investors. To adjust for the short price fluctuations, the following formula can be used:

$$Dividend - adjusted\ trailing\ P/E\ =\ (Price\ +\ Dividend)/Earnings.$$

Equation 7 Trailing P/E

You cannot adjust the dividend when calculating the leading P/E ratio, which is due to the dividend is paid out now. The leading P/E ratio looks at the relationship between the share price and the future expected earnings. The Results for P/E for Vår Energi is 6,813x, and the trailing P/E is 6,814x, which does not make a much difference when adjusting for dividends. Therefore, one can see in Table 7 Comparable Company Analysis Calculations that it used P/E for the calculations and only one decimal.

Ratio Analysis

Price-to-sales (P/S) multiples

P/S ratios are used to see the earnings compared to sales and can be looked at as the profit margin for the sales in the internet bubble from 1998-2000. The analysts emphasized that P/S was the way to analyze the new economy stocks. These new economy stocks were often reporting losses, and therefore the P/E and P/EBITDA could not be utilized.(Penman & Penman, 2007). The P/S ratio can be expressed as follows:

$$Price/sales = Price/earnings * Earnings/sales$$

Equation 8 Price/Sale

Return on Equity (ROE)

ROE is a profitability ratio that measures the amount of the company's income generated by the equity and illustrates how efficiently the equity can generate yield. It is calculated by the net results of the company divided by equity. Where net results are the earnings after all costs have been retracted, the equity is the part of the firm's equity that is owned by equity investors. ROE is shown as a percentage. If it is high, that means that the company is effective in generating yield, but it can also mean that it is using too much financing through debt. ROE is a tool that investors and analytics often use to evaluate its profitability, but also it is a valuable tool to compare to other companies and sectors.

$$ROE = Net\ Income\ /\ Shareholders'\ Equity$$

Equation 9 Return on Equity

Return on Total Capital (ROTC)

Return on total capital measures profitability and how efficiently the company can utilize its equity and debt to generate returns. ROTC is illustrated as a percentage and gives an insight into how effectively the company can generate profits from the total capital invested in its operations. If the result is a high percentage, that indicates that the company is efficient in generating profit.

$$ROTC = \frac{Earnings\ Before\ Interest\ and\ Taxes\ (EBIT)}{(Total\ Equity + Total\ Debt)}$$

Equation 10 Return on Total Capital

Return on Total Capital After-tax (ROTC after tax)

Like ROTC, this ratio shows how efficiently the company can utilize the total debt and equity to generate returns, but in this ratio, it takes the tax ratio into account. ROTC after tax will give

a more accurate measure of profitability given that it takes the impact of the taxation into account.

$$ROTC = \frac{Earnings\ Before\ Interest\ and\ Taxes\ (EBIT) * (1 - tax)}{(Total\ Equity + Total\ Debt)}$$

Equation 11 Return on Total Capital After-tax (ROTC after tax)

Operating Margin

The operating margin or Operating profit margin is a measure of how profitable the company's core operations are. The ratio is illustrated as a percentage after the operating expenses are deducted. The operating margin is a measure of how the company can control its costs and generate profits. A High result on the ratio tells you that they are efficient in managing expenses and profits. This ratio is good for tracking the company's performance over time following the trend.

$$Operating\ Margin = \frac{Operating\ Income}{Revenue} * 100$$

Equation 12 Operating Margin

Profit Margin

Like operating margin, profit margin is a ratio that looks at the company's profitability. The main difference is that profit margin takes all the expenses and income into consideration to assess overall profitability, and Operating margin only focuses on the company's profitability for the core operations. The profit margin ratio represents the profit generated per dollar of revenue and is illustrated as a percentage. A high-profit margin tells you that the company can generate a high profit relative to the revenue, which means that they are good at managing costs, pricing strategy, and competitive advantages that contribute to profit.

$$Profit\ margin = \frac{Net\ income}{Total\ Revenue} * 100$$

Equation 13 Profit Margin

Liquidity Ratio 1- 2

The liquidity ratios are key figures to show how a company's liquidity is. Alternatively, how able they are to pay their liabilities. Liquidity is often linked to how profitable the company is. It is an important measure used by bank and finance investors to analyze if a firm is suitable to apply for more capital or if they are likely to meet the company's current liability. Therefore, it is important for the customers to pay their accounts receivable. A pitfall for the bank and investors is the case where the company does not pay its bills. For an outsider, this can look like the company may have good profitability. (Fiken, 2023)

Liquidity Level 1

Level 1 is the relationship between current assets and the short-term liabilities.

$$Liquidity\ level\ 1 = \frac{Total\ current\ assets}{Total\ short\ term\ debt}$$

Equation 14 Liquidity Level 1

Liquidity Level 2

Level 2 is the relationship between current assets and the inventory. The reason for removing the inventory is that the inventory can be challenging to sell at a faster rate than normal operations. Therefore, if you include inventory at this level, it might look like the company have more cash or near cash-like assets. Thereby it can look like the company is worth more than it is.

$$Liquidity\ level\ 2 = \frac{Total\ current\ assets - inventory}{Total\ short\ term\ debt}$$

Equation 15 Liquidity Level 2

Capital's Turnover Rate

This ratio is much like the turnover ratio. The difference is that the turnover ratio takes the inventory as a basis, but the capital's turnover rate looks at the rate at which money is circulated or exchanged. If the number is high, that means that there is a healthy and robust circulation of money. If the result is low, that means that money is stopping somewhere, there is a too-long expiration date on accounts receivable, people are saving their money instead of buying

products, etc. If the number is low over a period of time, this means that the business is slowing down, and measures should be taken to fix the stagnation.

$$Capital's\ turnover\ rate = \frac{Income}{\frac{(Total\ assets\ x_1 - Total\ assets\ x_0)}{2}}$$

Equation 16 Capital's turnover rate

Equity Ratio

Equity ratio or Equity-to-asset ratio looks at how much of the company's assets are financed by the shareholders' equity. The ratio gives an insight into the financial structure and the risk that is associated with its capital structure. The higher the ratio, the more is financed by the shareholders' equity, and that implies that it has a lower risk level. Therefore, if the ratio is low, it tells you that the company is relying on debt financing, which means it has an increased financial risk and also a higher interest expense.

$$Equity\ ratio = \frac{Total\ shareholder'equity}{Total\ assets}$$

Equation 17 Equity ratio

DuPont

DuPont is an equation that helps you to break down the Return on equity (ROE) it breaks it down into Profitability, asset effectiveness, and financial leverage. This is done by multiplying the Profit margin, velocity of money/assets, and an equity multiplier.

- The profit margin measures the ability to generate profits from sales.
- Capital's turnover rate assets measure how effectively the company utilizes the assets into profit.
- The Equity multiplier looks at the financial leverage and to what extent the business is debt-financed.

$$DuPont = Profit\ margin * Capital's\ turnover\ rate * \frac{1}{Equity\ ratio}$$

Equation 18 DuPont

Ratio Valuation.

Ratios	Vår Energi ASA	Vår Energi ASA	Change
	2022	2021	
Return on equity(ROE)	62,5 %	38,8 %	37,9 %
Return on Total capital	30,34 %	13,13 %	56,74 %
Return on total capital (after tax)	8,20 %	3,55 %	56,74 %
Operating margin	65,12 %	50,61 %	22,28 %
Profit margin	9,57 %	10,83 %	-13,09 %
Liquidity level 1	0,508	0,559	-0,099
Liquidity level 2	0,430	0,445	-0,034
capital's turnover rate	0,507	0,300	0,409
Equity ratio	7,8 %	8,8 %	-13,5 %
DuPont	62,5 %	36,8 %	41,06 %

Figure 3 Ratio valuation

Ratio Results

ROE average in 2023 for oil and gas companies who operate both in operation and exploration in the US had a ratio of 47%. After adjusting for Research and development, the ratio was 46,93%. (Damodaran, 2023) The ROE for Vår Energi in 2021 was 38,8% and 62,5% in 2022, which is a good increase. An ROE above 20% is considered a good result, but for this sector, an investor typically demands above the 30% mark, depending on the market power and size of the company. A company with steady operations in the market should yield close to the market average. The ROE results for Vår Energi tell us that the equity invested is generating yield at a high level.

Return on Total capital for Vår Energi is 30,34% which is considered an excellent result, more than doubling it from 13,13% in 2021. Anything above 5% is good, and above 20% is considered outstanding. This means that Vår Energi is good at generating profits from the invested capital.

Return on Total Capital after tax is only at 8,20% for 2023. This has to do with the significant tax regulations on petrol in Norway. With an average tax bracket of about 71%, the tax part of the equation is quite large. This ratio tells us that the realistic generated profits on the invested debt and equity are 8,20% and 3,55% in 2022 and 2021, respectively.

The Operating Margin for Vår Energi ASA was 65,12% in 2022 and 50,6% in 2021, respectively, which is a good result, well above the average operating margin for Q4 2021, which was 44,4%, and for the whole year it was 23% (Investorpedia, 2022) which means that the Vår Energi was able to outperform the average for the oil and gas sector. Above average results of 65,12% mean that they are good at managing their costs and generating profitability at a higher level than most of their competitors.

Profit Margin for the average oil and gas production in 2021 was 4,7%. Q4 2021 had a profit margin of 13,3% (Investorpedia, 2022). The average profit- and operating margins tell us that Q4 was the strongest quarter that year, and the rest of the year had to yield low margins because the average margins for the whole year were low, where the profit margin was only 4,7%. The average operating margin was, as stated above, only 23%. Vår Energi has a profit margin of 9,57% in 2022 and 10,82% in 2021, which is 2x the average. Based on the profit margin, Vår Energi is generating a higher profit relative to the revenue than its competitors despite the 2022 results having a slight bump down from the 2021 profit margin.

Liquidity Level 1 should have a 200% ratio and a minimum of 100%, alternatively illustrated as 2x and x, respectively, to be healthy (Uksnøy, 2023). This shows whether the company is able to pay its short-term debt. Vår Energi only has 0,508x and 0,559x for 2022 and 2021, respectively, which means that the current assets are not able to cover the current liability. It should be noted that they are keeping it at a stable level to meet their strategy; The annual report states that the short-term debt is to be kept at a level that the FCFF can cover the costs of current liabilities. (energi, 2022)

Liquidity Level 2 should be 1x or 100%. This shows the ability to pay the current liability without utilizing the inventory. Vår Energi's ratio is 0,430x for 2022 and 0,445x for 2021. The two liquidity ratios tell us that they have taken on too much short-term debt compared to their current assets, which is a concern, emphasizing the critical need to keep a healthy FCFF.

Capital's Turnover Rate is 0,507x in 2022, which is very low. However, it has increased by 0,2x from 2021, where the ratio was 0.300x. The low ratio is to do with the Value of the total assets are high compared to the income from operations. Property, plant, and equipment (PPE) have 76% of the value of total assets and are the reason for the low result. If you were to calculate the assets without PPE, the result would be 0,892x for 2022, which is much better. Of course, you cannot just remove the PPE from the equation, but this only goes to show that the business is really asset-heavy, especially for a young company like Vår Energi.

Equity Ratio is 7,8% in 2022, down from the 8,8% ratio in 2021. This ratio is also based on the total assets in the firm, and therefore it is natural to see a low number.

DuPont helps you to break down the ROE by looking at the Profit margin, how they utilize the assets to generate profits, and by using an equity multiplier (1/Equity ratio). By analyzing the Dupont result to the ROE, we see the same result of 62,5%, which tells us that the driver who delivers the high ROE results is the high Profit margins.

The Returns and profit margins are high for Vår Energi. However, if they run into trouble with production or the oil and gas prices crash, they could find themself with a liquidity problem. Only having assets that take a certain time to sell off, it is vital that they keep up the performance that they have regarding returns and profits.

Comparable Analysis

This valuation method is used not only to evaluate the company in question but also to compare it to its competitors. When finding a comparable firm, certain factors should be considered. The companies should be in the same sector or field of business, and they should be the same size measured in revenue, market value, etcetera. The geographical area should be the same due to differences in taxation and political relations. They should have the same product of production. Lastly, there should be a similar risk profile, debt ratio, and financial profile to better compare the companies.

Finding substitute firms for Vår Energi can be difficult if you want to focus on products because they are in the energy business, but what is energy? Do you focus on oil production, renewable energy, or everything combined? Even though the product is mainly produced in Norway, they are sold worldwide. Do we compare to every energy company or focus on the continental shelf of Norway? There could also be a solution to look at the companies that focus on only renewable energy. The different companies I have chosen to look at are based in different countries and therefore are on different stock exchanges. However, all are operating on the continental shelf of Norway. The numbers have all been converted into USD.

Implied value is a value where a company or investor buys a company or shares from another without it being influenced by the company's real value or its book value. This method can give results both higher and lower than its actual value. The value is calculated by looking at competing firms' ratios.

I have chosen to look at Equinor, ConocoPhillips, TotalEnergies, and Aker BP, and these are companies that all have oil and gas production on the Norwegian continental shelf.

ConocoPhillips

ConocoPhillips is an oil and gas company that operates worldwide with its headquarters in Texas, US, and has activity in 16 countries and approximately 10 000 employees. They have a focus on a dynamic working environment and knowledge transferring, competence, and experience. The company came to Norway in 1965 and has its main office in Sola and have Ekofisk as the main production area. (conocophillips)

TotalEnergies

TotalEnergies is a French oil and gas company with its main headquarter in Paris. They have business worldwide and have a large production field on the Norwegian continental shelf. They have about 100 000 employees worldwide and showed their presents in Norway in 1965, and have offices in Stavanger. (TotalEnergies)

Aker BP

Aker BP is a Norwegian company that came together from a merger of a part of Aker and BP Norge in 2016. Its main business is exploration and production of oil and gas and is the operator of six fields on the Norwegian continental shelf. Measured in production, they are one of the largest independent oil companies listed on the stock exchange in Europe. The main offices are in Oslo, and the company has about 2500 employees. (AkerBP)

Equinor

Equinor is an international oil and gas company, a big difference from other oil and gas companies is that the Norwegian government owns about 67% of the shares in the company. Equinor has about 22 000 employees and is present in 30 different countries. Their main goal is to be a leader in sustainability and the transition of becoming a net zero production company. (Equinor) and (Equinor)

Comparable Analysis Results.

Comparable analysis Summary	Valuation		
Company	EV/Revenue	EV/EBITDA	P/E
Vår energi	0,9x	1,1x	6,8x
Total Energies	0,1x	1,6x	0,2x
Equinor	1,2x	2,0x	3,0x
Aker BP	1,0x	1,1x	0,8x
ConocoPhillips	0,6x	1,3x	0,6x
Median	**0,8x**	**1,5x**	**0,7x**

Figure 4 Comparable analysis

Analyzing the different factors that are used to make the comparable analysis, there are outliers within the different companies. Equinor, for instance, has a share price 11x the share price of Vår Energi, and therefore the value is higher. I have focused on calculating the EV/Revenue-, EV/EBITDA-, and P/E ratio for the five different firms. Out of all the firms, Vår Energi is the smallest out of all the companies. This is primarily due to the fact that they are a young company that was only founded in 2018. Vår Energi does not have high Net Debt to total Revenue relations, which gives them a healthy cash flow. Note that this ratio does not illustrate the total leverage ratio of the firm. The total leverage ratio is published by the different firms and is about 80% for all the five firms, which puts these firms at about the same risk level regarding their debt holders. As expected, Equinor is the company to beat. They are the most prominent actor and the most valuable player on the shelf with an enterprise value 3x the Aker BP. Because of the difference in company size, stock prices, and shares outstanding, I have used the median instead of the average in the calculations to make the results more comparable. Vår energi has a tax rate of 72,3 in 2022, giving a net income of 1 006 632 USD.

P/E

The P/E - ratio is 6,8x, which is good, and this tells us that the market is optimistic about future earnings. It is also important to note that the ratio is a ratio that easily can show overpriced value due to expectations in the market and other "outside" factors. It can be noted that the three companies that are Norwegian based are the ones with the highest P/E. This might have something to do with the Norwegian taxation. Norway has a taxation system that aims to have neutrality in the Norwegian economy. Therefore petroleum, like many other businesses, has a special tax on top of the original tax rate. This rate is about 71,8% (Norskpetrolium, 2023).

EV/EBITDA

EV/EBITDA is a good tool to look at, especially if you are valuing companies that have their base in different countries. As in our case, this looks at the Enterprise value, and thereby it takes into account the debts and equity of the company. EV/EBITDA gives you a comprehensive view of the capital structure before taxation, depreciation, and amortization. This ratio gives you the opportunity to compare companies with different capital structures. The ratio tells you if the company can generate operating profitability and positive cash flow. Vår Energi has an EV/EBITDA of 1.1x, which tells us the market value of Enterprise value to 0,1x to the company's EBITDA, which is lower than its competitors, who had a median EV/EBITDA of 1,5x. Vår Energi has the lowest share price out of all the companies in the analysis.

EV/Revenue

EV/Revenue looks at the market valuation of a company compared to its revenue. If the ratio is high, it tells us that the market is willing to pay a premium for every dollar of revenue. If the Ratio score is too high, it can mean that it is overvalued, and vice versa. Therefore, it is important not only to look at one ratio. What makes this a good ratio is that you can look at different size companies like Equinor and Vår Energi. The average and median EV/Revenue are 0,7x and 08x, respectively, and Vår Energi has an EV/Revenue ratio of 0,9x, which is lower than Equinor with 0,3x and Aker BP with 0,1x. This tells us that Vår Energi has a good financial performance and the ability to generate revenue in line with its competitors.

Using the median multiples calculated in Table 7 Comparable Company Analysis Calculations, we can predict the implied values for Enterprise value and market value, then find the implied value per share.

Vår energi	EV/Revenue	EV/EBITDA	P/E
Implied Enterprise Value	8 413 629	12 430 902	3 398 233
Net Debt	2 706 738	2 706 738	2 706 738
Implied Market Value	5 706 890	9 724 164	691 495
Shares outstanding	2 746 047	2 746 047	2 746 047
Implied Value Per Share	**2,1x**	**3,5x**	**0,3x**

Figure 5 Implied value

The implied value per share for EV/Revenue and EV/EBITDA comes back higher with a higher result where the implied EV/Revenue is 2,1x, and the implied EV/EBITDA is 3,5x, which is higher than the forecasted EV/Revenue of 0,9x and EV/EBITDA of 1.1x respectively. The implied P/E ratio is the only one that comes to a lower level because of the significant difference in the P/E ratio for Vår Energi and the median for the competitors if one were to calculate the P/E ratio for the competitors' average. The implied value per share for the P/E ratio will be 0,4x, which is more plausible but still might be too low since Vår Energi has a 6,8x and the average is 1,1x.

Corporate Value.

Vår Energi's corporate governance policy is focused on the Norwegian code of practice and has a high focus on the ethical standards, fairness, transparency, and proper governance. On this basis, the board of directors has constructed a corporate governance policy document (GC Policy) that is approved by the company and is a supplement to the management system guidelines (MsGs). The document is designed to give guidelines on how the board and executives make decisions on practices and policies that affect Vår Energi's operations, strategy, and profitability. The importance of corporate governance is implicated at every level of the supply chain and constantly evolving to meet new demands and trends. The long-term financial policy aims to create value for the shareholders. Therefore, Vår Energi must assess the capital requirements related to its strategy and risk profile. The target for dividends is between 20-30% of the after-tax operating cash flow and is paid annually. (energi, 2022) the stocks consist of two different classes, A and B. Class B stocks are entitled to appoint four of the shareholders-elected directors to the board of directors. Vår Energi also has a risk and compliance committee that oversees the quarterly vital strategic risks and opportunities. Overall, the GC policy is designed to ensure that the operations follow ethical and responsible practices and focus on transparency and fairness to its shareholders, stakeholders, and employees. They have a structured management system to make sure that there are sound internal control and risk management routines. Vår Energi uses third-party companies to assess and advise about the company's value and the management regarding Norwegian rules and regulations to ensure that they do not get stuck in their own bias toward the rules.

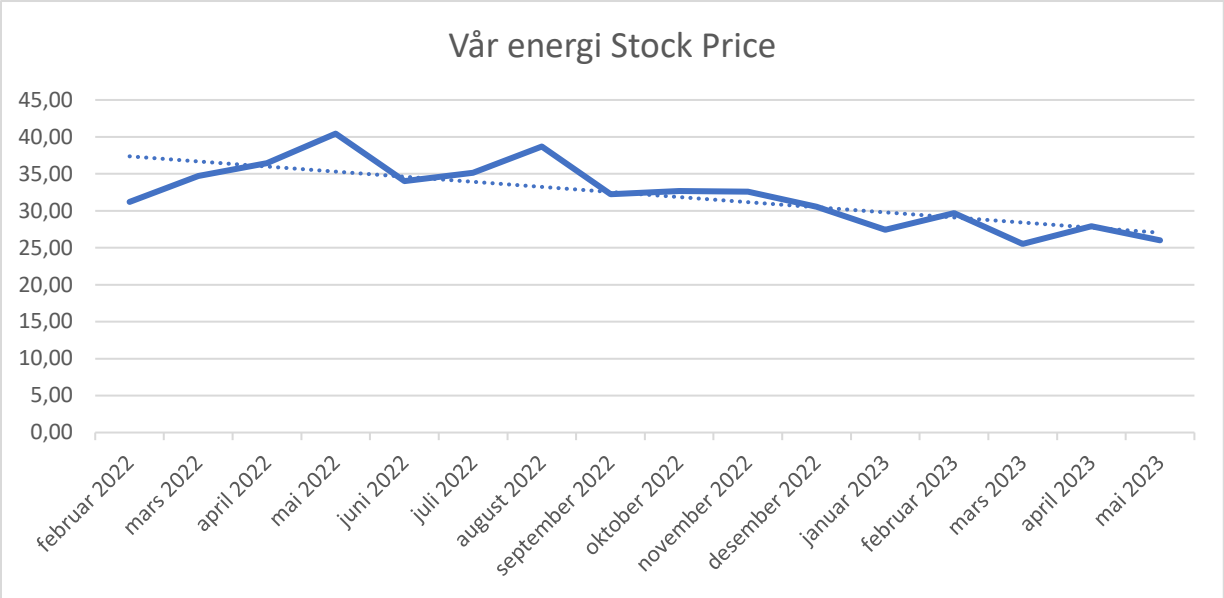

Figure 6 Stock price

Vår Energi did not enter the stock exchange before February 2022, which only gives over one year of data to look at regarding how the stock market prices the company. However, one can clearly see a negative trend trough out the period they have been on the stock market Figure 6 Stock price. This is primarily due to the business they are in. If you look at Figure 7 Stock price vs. Crude oil on the next page, you can see a correlation between the downward trend in the crude oil price per barrel and Vår Energi's stock price (Statista, 2023|). The oil price has had larger changes due to the large challenges that have affected the world the last few years, first with the Covid-19 pandemic that almost stopped the whole world for many months, and then Russia invading Ukraine. These two factors have given the whole world an increase in inflation. This had a positive effect on the oil price, and therefore it positively affected the stock prices of oil and gas-producing companies (Sadjadi & Ghaderi, 2023). As the world is normalizing and adapting to the new challenges, the market and prices have started to go back to the level it had before Russia's invasion.

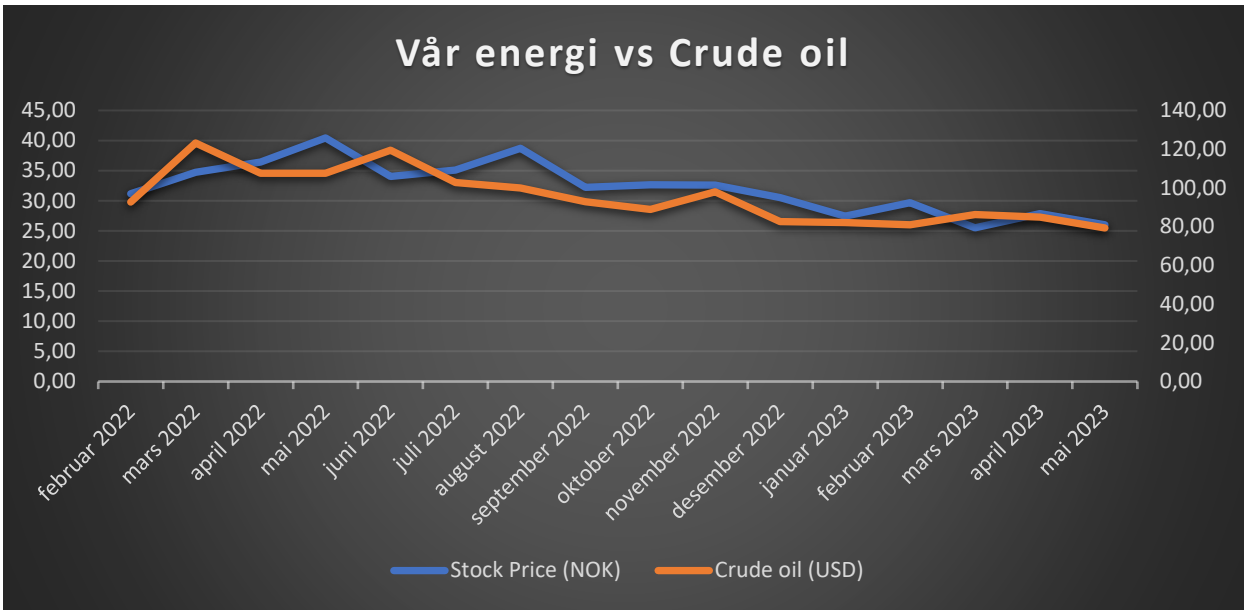

Figure 7 Stock price vs. Crude oil

Fundamental Analysis

Calculating the DCF consists of multiple steps. The largest step is to calculate the unlevered free cash flow.

Free Cash Flow (FCFF)	
Total Revenue	
COGS	
Gross profit	
Total operating expenses	
Ebitda	
Reconciled Depreciation (-)	
EBIT	
Tax	
NOPAT	
Reconciled Depreciation (+)	
CAPEX	(-)
Økning i NAK	(-)
Unlevered Free cash Flow	

Figure 8 Unlevered Free cash flow

After identifying all the necessary information from the Income statement and the balance sheet, you can start calculating working capital (WC) and the change in WC to find the unlevered free cash flow for the years you have accessible from the company's history for Vår Energi there are public data from 2019 to 2022. The 2022 data became available just a few months before the delivery date of the thesis. The next step is where the Forecasting starts. Here we must form the bases for our assumptions for the next five years. I have done so by calculating the Revenue growth and Cost of goods sold (COGS), Sales and administration costs (SA&A) regarding the revenue, and the tax % of Earnings before interest and tax (EBIT)

The results for the FCFF for the fiscal years are volatile due to the different investment, production, COGS, and tax costs which also are reflected in the relationship calculations. Because of the significant differences in the results, I have used the median of 2019 to 2022 to calculate the predictions for 2023 to 2027, which is illustrated in Table 1 Free Cash Flow (FCFF). To complete the forecasting for the cash flow, I have also made assumptions for calculations and Table 3 Net Working Capital Calculations, also illustrated in the respective tables in the appendix. Based on all assumptions, the revenue is expected to grow.

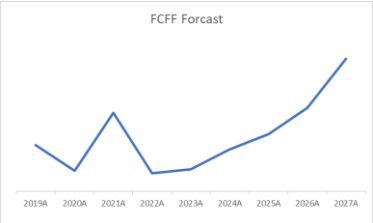

Figure 9 FCFF forecast trend.

The income and the income growth for the fiscal years look healthy with good stable growth, especially from 2020 to 2022. With stable cost management, expecting continuing growth for the next five years seems natural. Taking the external forces like Russia's war and the world realizing that Russia has too much power through their oil supply, the world will look at existing companies to pick up more of the production to meet the worlds demands and the internal goals within Vår Energi of increasing its production in a sustainable and environmental manner it seems natural to assume the growth is realistic. A drawback of being an outside investor is that we do not have information about the future investment plans regarding research and development (R&D) and PPE cost. However, it has been calculated in growth for this in my assumption.

Discounted Cash Flow (DCF)

Implied share price calculation	
Sum of PV of FCF	20 539 045
Growth Rate	3,5 %
WACC	5,66 %
Terminal Value (TV)	360 181 279
PV of TV	273 474 296
Enterprise Value	294 013 341
(+) cash	434 693
(-) Debt	2 565 923
(-) Minority interest	432 582
Equity Value	291 449 529
Diluted shares outstanding	**27 460 470**
Implied share price	10,6

TV = perpetuity growth method

Figure 10 Implied share price calculation

Based on the FCFF forecasts, I have made an Implied share price calculation. With the expectation that the number of shares will stay the same as in 2021 and 2022, I have calculated the WACC shown in Table 5 Weighted Average Cost of capital calculations. The WACC was calculated using the Average industry Beta of 1,45. However, I did calculate the beta using the S&P 500 against the Vår Energi. Taking the 25th of every month since Vår Energi entered the stock market, the Beta came to a result of 1,2949, and this would have given the WACC a value of 5,00% compared to the 5,66%. I have chosen to use the industry beta because the industry beta can provide macro-level information that the individual company cannot calculate. Moreover, this gives the basis for calculating the Implied TV to 360 181 279 dollars and the implied Equity Value to 291 449 629 and then dividing the implied equity value by the diluted shares outstanding, the implied share price is 10,6 Dollars.

$$\frac{10{,}6 - 2{,}5}{10{,}6} * 100 = \ 76{,}4\%$$

Calculating the difference between the implied share price and Vår Energi's share price, one can see that Vår Energi is undervalued by up to 76,4%. If you look at Table 7 Comparable Company Analysis Calculations, you can see that the price is sensitive to the WACC and growth rate change, which is especially visible I you look at the 1% change table of Table 7 Comparable Company Analysis Calculations.

Summary

This Thesis had the goal of valuating Vår Energi, and on the bases of my analysis, I want to see if Vår Energi is Under- Over- or accurately priced at today's share price. This is done by looking at Vår Energi's financials, the oil and gas industry, and Vår Energi's competitors. There are so many competitors in the oil and gas business. Therefore, I have chosen Equinor, ConocoPhillips, TotalEnergies, and Aker BP, which were the companies I found to be the most relevant on the Norwegian continental shelf.

Based on available data on Yahoo finance, Nordnett, proof.no, and Brønnøysundregisteret, I have calculated unlevered FCFF, DCF, and a Ratio analysis. This, together with Vår Energi's annual report for 2021 and 2022, I have tried to find the company's intrinsic value.

Using Ratio analysis, I have analyzed the economic situation of Vår Energi. For the most part, the results are above average for the oil and gas industry and show strengths in future operations. The ROE is well above average, with 62,5% against 46,93%. ROTC and ROTC after tax for 2022 are 30,34% and 8,20%. Respectively, this tells us that Vår Energi is good at generating yield. The Operating margin for 2022 is 65,12%, and the profit margin is 9,57%. Both these ratios are double the average of 23% and 4,7%, respectively. The strongest quarter for the industry was Q4, with an average operating margin of 44,4%, telling us that Vår Energi was better at generating profits throughout the year. There are, however, not only good results. Looking at Liquidity ratios 1 and 2, the results are half of what the theory says they should be, telling us that the current assets are not able to cover the current liabilities of the company. Looking at the annual report, it states that there is a strategy that the FCFF has to cover the current liabilities. The liquidity levels are kept at a steady level for 2021 and 2022, which is a good sign regarding their strategy. The turnover ratio is also at a low level at only 0,507, and the equity ratio is only 7,8 for 2022. This is because Vår Energi is in an assets-heavy business. To check my calculations, I have used the DuPont model to determine which part of the drivers is the reason for the high ROE result. I found that DuPont = ROE, which is good. The model tells us that the Profit margins are the driver who generates the high ROE. The Ratio analysis implies that Vår Energi is good at generating profit. However, they depend on controlling the costs and generating stable future cash flows to meet their liabilities.

Comparable company analysis I wanted to know the EV/Revenue, EV/EBITA, and P/E in relation to my comparable companies. There were some limitations to the valuations, like the stock price and shares outstanding for the different companies. However, the ratios are in a manner where they are calculated regarding the company's own value. Therefore, the results were close to the average and median for the selection. The EV/Revenue for Vår Energi was

0,9x. Equinor's ratio of 1,2x and average of 0,7x was the best competitor. The EV/EBITDA was 1,1x, which was the lowest of the selection, and the average was 1,5x, which means that the competitors are better at generating a higher EBITDA regarding the enterprise value. The P/E ratio for Vår Energi was much higher than its competitors. This has to do with the net income after tax is low regarding the selection. The average P/E was 1,1x, which means the market is valuing the average Equity value 0,1 higher than the net income, while the market values the Equity value 6,8x the net income. If the calculations for P/E were made with EBITDA, it would have been 0,8x, which could mean that the market compensates for the special oil and gas taxation. Using the median for all the selection companies, one can calculate the implied value per share for Vår Energi for the EV/Revenue, EV/EBITDA, and P/E. This implies that Vår Energi is undervalued compared with its competitors for both EV/Revenue and EV/EBITDA. However, Vår Energi is overvalued regarding the P/E.

	EV/Revenue	EV/EBITDA	P/E
Implied value per share	2,1x	3,5x	0,3x
Calculated value	0,9x	1,1x	6,8x

Figure 10 calculated ratio vs. Implied ratio.

The FCFF calculations are made based on available data from yahoo finance. With these calculations, I have made ratios to help predict the future net working capital, fixed assets, and cash flow for the firm. The predictions for the FCFF show a steady increase for the next five years, which aligns with Vår Energi's goal of increasing production on the shelf.

DCF valuation is generated on the forecasted FCFF, a growth rate of 3,5, and a WACC of 5,66, giving the implied share price calculations. These calculations show a TV of 360 181 279. And an enterprise value of 294 013 341. The implied share price for Vår Energi is 10,6 dollars, and the current share price of 25.05.2023 is 2,5 dollars. This illustrates that Vår Energi is undervalued and is expected to grow in the future.

Conclusion

Vår Energi is a young but stable actor on the Norwegian continental shelf. Based on the annual report, there is a lot of optimism for the future, where the management is positive to the expected growth in production, and the increasing focus on sustainability, ESG, and transparency gives positive signals to the shareholders. The analysis is mostly positive for future growth and profitability, only emphasizing the liquidity level being too low. There is, however, a planned strategy for the liquidity level where the current liabilities are to be covered by the FCFF. The company is asse-heavy. Therefore, Vår Energi has a pressure to keep a healthy cash flow. The valuation of the financials tells us that Vår Energi can keep the costs under control and generate profits. The overall findings from this paper implies that Vår Energi is undervalued and is expected to grow.

References

AkerBP. *About us*. Aker BP. https://akerbp.com/

Belton, P. (2017). *An Analysis of Michael E. Porter's Competitive Strategy: Techniques for Analyzing Industries and Competitors*. CRC Press.

conocophillips. *About us*. https://www.conocophillips.com/about-us/

Damodaran, A. (2023). *Return on Equity by Sector (US)*. Damodaran online. https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/roe.html

energi, V. (2022). *Vår Energi's Annual report 2022*. V. energi. https://investors.varenergi.no/reports-and-presentations/default.aspx

Energi, V. (2023). *Vår Energi home page*. https://investors.varenergi.no/home/default.aspx

Equinor. *About us*. Equinor. https://www.equinor.com/about-us

Equinor. *Investors*. Equinor https://www.equinor.com/investors/annual-reports

Fiken. (2023). *Hva er likviditetsgrad*. Fiken. https://fiken.no/forklarer/likviditetsgrad

Finance, Y. (2023a). *Aker BP ASA (AKERBP.OL)*. Yahoo Finance. https://finance.yahoo.com/quote/AKRBP.OL/balance-sheet?p=AKRBP.OL

Finance, Y. (2023b). *ConocoPhillips (COP)*. Yahoo Finance. https://finance.yahoo.com/quote/COP/balance-sheet?p=COP

Finance, Y. (2023c). *Equinor ASA (EQNR)*. Yahoo Finance. https://finance.yahoo.com/quote/EQNR/balance-sheet?p=EQNR

Finance, Y. (2023d). *MSCI WORLD MIN VOL (USD)- EUROP (^709433-USD-STRD)*. Yahoo Finance. https://finance.yahoo.com/quote/%5E709433-USD-STRD?p=%5e709433-USD-STRD&.tsrc=fin-srch

Finance, Y. (2023e). *TotalEnergies SE (FP.VI)*. Yahoo Finance. https://finance.yahoo.com/quote/FP.VI/balance-sheet?p=FP.VI

Finance, Y. (2023f). *USD/NOK (NOK=X)*. Yahoo Finance. https://finance.yahoo.com/quote/NOK=X?p=NOK=X&.tsrc=fin-srch

Finance, Y. (2023g). *Vår Energi AS (J4V.F)*. Yahoo finance. https://finance.yahoo.com/quote/J4V.F?p=J4V.F

Investorpedia. (2022). *Average Profit Margin for Oil & Gas Drilling Sector Companies*. Investorpedia. https://www.investopedia.com/ask/answers/012015/what-average-profit-margin-company-oil-gas-drilling-sector.asp

Norskpetrolium. (2023, 11.05.2023). *PETROLEUMSSKATT*. norskpetrolium.no. https://www.norskpetroleum.no/okonomi/petroleumsskatt/

Norway, U. N. A. o. (2020). *Parisavtalen*. FN.no. https://www.fn.no/om-fn/avtaler/miljoe-og-klima/parisavtalen

Penman, S. H., & Penman, S. H. (2007). *Financial statement analysis and security valuation* (Vol. 3). McGraw-hill New York.

Reilly, R. R. (1995). Damodaran on valuation: Security analysis for investment and corporate finance. In: JSTOR.

Sadjadi, S. S., & Ghaderi, S. F. (2023). The role of interest rate and inflation on oil stock prices: Evidence from Ukraine-Russia war. *Journal of Industrial and Systems Engineering*(Articles in Press).

Statista. (2023|). *Closing price of Brent, OPEC basket, and WTI crude oil at the beginning of each week from March 2, 2020 to May 15, 2023 (in U.S. dollars per barrel)* www.statista.com. https://www.statista.com/statistics/326017/weekly-crude-oil-prices/

Taylor, M. (2009). What is sensitivity analysis. *Consortium YHE: University of York*, 1-8.

TotalEnergies. *TotalEnergies in Norway*. TotalEnergies. https://corporate.totalenergies.no/total-i-norge/total

Uksnøy, E. U. (2023). *Hva er likviditet? Slik får du bedre likviditet i bedriften din*. conta. https://conta.no/likviditet/likviditet/

Van Duuren, E., Plantinga, A., & Scholtens, B. (2016). ESG integration and the investment management process: Fundamental investing reinvented. *Journal of Business Ethics*, *138*, 525-533.

Vår Energi's Annual report 2022 V. energi 2022 Vår energi investor page: V. energi DOI: https://investors.varenergi.no/reports-and-presentations/default.aspx

Vår energi annual report 2021 V. energi Institution: Vår energi 2021 Vår energi's investor page: V. energi DOI: https://investors.varenergi.no/reports-and-presentations/default.aspx

Carley, S., Baldwin, E., MacLean, L. M., & Brass, J. N. (2017). Global expansion of renewable energy generation: An analysis of policy instruments. Environmental and resource economics, 68, 397-440.

Titman, S., & Martin, J. D. (2016). Valuation: The Art and Science of Corporate Investment Decisions.

Appendix

Table 1 Free Cash Flow (FCFF)

Free Cash Flow (FCFF)										
		2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2026E
Total Revenue		2 821 056	2 868 635	6 043 375	9 780 543	15 459 661,3	24 436 386,2	38 625 488,7	61 053 560,2	96 504 596,9
COGS		948 562	1 057 224	2 845 582	2 859 228	5 447 904,3	8 896 714,1	14 277 644,9	22 581 422,5	33 744 092,0
Gross profit		**1 872 494**	**1 811 411**	**3 197 793**	**6 921 315**	**10 011 757,0**	**15 539 672,1**	**24 347 843,8**	**38 472 137,7**	**62 760 504,9**
Total operating expenses		1 334 275	1 961 677	235 229	268 122	4 727 346,8	7 472 303,0	11 811 130,8	18 669 319,5	29 509 747,5
Ebitda		**538 219**	**- 150 266**	**2 962 564**	**6 653 193**	**5 284 410,1**	**8 067 369,1**	**12 536 713,0**	**19 802 818,2**	**33 250 757,3**
Reconciled Depreciation		1 168 298	1 706 740	1 704 561	1 447 966	1 538 933	1 365 280	1 211 221	1 074 546	953 294
EBIT		**- 630 079**	**- 1 857 006**	**1 258 003**	**5 205 227**	**3 745 477**	**6 702 090**	**11 325 492**	**18 728 272**	**32 297 463**
Tax	72,3 %	- 455 547	- 1 342 615	909 536	3 763 379	2 707 980	4 845 611	8 188 331	13 540 541	23 351 066
NOPAT		**- 174 532**	**- 514 391**	**348 467**	**1 441 848**	**1 037 497**	**1 856 479**	**3 137 161**	**5 187 731**	**8 946 397**
Reconciled Depreciation	(+)	1 168 298	1 706 740	1 704 561	1 447 966	2 827 569	2 508 505	2 225 444	1 974 324	1 751 541
CAPEX	(-)	- 1 282 441	- 1 811 854	- 2 584 911	2 593 147	1 538 933	1 365 280	1 211 221	1 074 546	953 294
Økning i NAK	(-)	- 1 191 259	1 476 828	- 1 248 463	- 1 060 933	670 304	- 128 482	- 140 229	- 153 022	- 166 952
Current assets		1 698 508	1 486 358	1 472 647	1 720 020	1 835 699	1 959 159	2 090 921	2 231 546	2 381 628
Cash equivalents		195 922	262 938	214 133	434 693	276 922	292 691	309 359	326 977	345 597
Current liabilities		2 693 845	937 851	2 221 408	3 309 154	2 912 301	3 148 473	3 403 797	3 679 826	3 978 239
Working capital (WC)		- 1 191 259	285 569	- 962 894	- 2 023 827	- 1 353 523	- 1 482 005	- 1 622 234	- 1 775 257	- 1 942 209
Change in WC		- 1 191 259	1 476 828	- 1 248 463	- 1 060 933	670 304	- 128 482	- 140 229	- 153 022	- 166 952
Unlevered Free cash Flow		**3 467 466**	**1 527 375**	**5 886 402**	**1 357 600**	**1 655 829**	**3 128 187**	**4 291 614**	**6 240 532**	**9 911 596**
Assumptions										
Fisical Year		2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2026E
Revenue growth			1,7 %	110,7 %	61,8 %	58,1 %	58,1 %	58,1 %	58,1 %	58,1 %
COGS % of Revenue		33,6 %	36,9 %	47,1 %	29,2 %	35,2 %	36,4 %	37,0 %	37,0 %	35,0 %
SG&A of Reveune		47,3 %	68,4 %	3,9 %	2,7 %	30,6 %	30,6 %	30,6 %	30,6 %	30,6 %
Tax % of EBIT		72,3 %	72,3 %	72,3 %	72,3 %	72,3 %	72,3 %	72,3 %	72,3 %	72,3 %

Table 2 Fixed Assets calculations

Fixed assets									
Fiscal Year	**2019A**	**2020A**	**2021A**	**2022A**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**
Beginning PP&E	14 962 946	15 687 330	15 841 149	14 847 756	11 419 983	10 131 347	8 988 122	7 973 898	7 074 120
Depreciation	1 170 470	3 316 963	4 676 566	6 020 920	2 827 569	2 508 505	2 225 444	1 974 324	1 751 541
Capital Expenditure	1 282 441	1 811 854	2 584 911	2 593 147	1 538 933	1 365 280	1 211 221	1 074 546	953 294
Ending PP&E	**15 074 917**	**14 182 221**	**13 749 494**	**11 419 983**	**10 131 347**	**8 988 122**	**7 973 898**	**7 074 120**	**6 275 873**

Assumptions									
Fiscal Year	**2019A**	**2020A**	**2021A**	**2022A**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**
D&A as a % Beginning PP&E	8 %	21 %	30 %	41 %	25 %	25 %	25 %	25 %	25 %
CapEx as a % of Beginning PP&E	9 %	12 %	16 %	17 %	13 %	13 %	13 %	13 %	13 %

Table 3 Net Working Capital Calculations

Net Working Capital (NWC)									
Fiscal Year	**2019A**	**2020A**	**2021A**	**2022A**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**
Current assets	1 698 508	1 486 358	1 472 647	1 720 020	1 835 699,4	1 959 158,8	2 090 921,5	2 231 545,8	2 381 627,7
Change%	100,0 %	-14,3 %	-0,9 %	14,4 %	6,7 %	6,7 %	6,7 %	6,7 %	6,7 %
Current liabilities	3 309 154	2 221 408	937 851	2 693 845	2 912 301	3 148 473	3 403 797	3 679 826	3 978 239
Change%	100 %	-49 %	-137 %	65 %	8,1 %	8,1 %	8,1 %	8,1 %	8,1 %

Table 4 Implied share price based on discounted cash flow model

Unlevered Free Cash Flow									
Fiscal Year	2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2026E
Unlevered Free Cash Flow	3 467 466	1 527 375	5 886 402	1 357 600	1 655 829	3 128 187	4 291 614	6 240 532	9 911 596
Projection year					1	2	3	4	5
Present value of Free Cash Flow					**1 567 092**	**2 801 888**	**3 637 960**	**5 006 542**	**7 525 563**

Implied share price calculation	
Sum of PV of FCF	20 539 045
Growth Rate	3,5 %
WACC	5,66 %
Terminal Value (TV)	360 181 279
PV of TV	273 474 296
Enterprise Value	294 013 341
(+) cash	434 693
(-) Debt	2 565 923
(-) Minority interest	432 582
Equity Value	291 449 529
Diluted shares outstanding	**27 460 470**
Implied share price	10,6
TV = perpetuity growth method	

Change + -	0,5 %	Growth Rate				
Share price	10,61	2,50 %	3,00 %	3,50 %	4,00 %	4,50 %
WACC	4,66 %	11,53	9,45	9,45	11,53	21,05
	5,16 %	15,50	12,02	12,02	15,50	38,20
	5,66 %	15,50	12,02	12,02	15,50	38,20
	6,16 %	11,53	9,45	9,45	11,53	21,05
	6,66 %	7,40	6,45	6,45	7,40	10,61

Change + -	1 %	Growth Rate				
Share price	10,61	1,50 %	2,50 %	3,50 %	4,50 %	5,50 %
WACC	3,66 %	12,53	8,71	8,71	12,53	161,14
	4,66 %	24,97	13,64	13,64	24,97	-33,56
	5,66 %	24,97	13,64	13,64	24,97	-33,56
	6,66 %	12,53	8,71	8,71	12,53	161,14
	7,66 %	5,73	4,71	4,71	5,73	10,61

Table 5 Weighted Average Cost of capital calculations.

Weighted Avarage Cost of Capital (WACC)	
Equity	1 481 571
Debt	2 565 923
Cost of Debt	0,32%
Tax Rate	72,3%
D/(D+E)	63,4%
After Tax Cost of Debt	**0,1%**
Risk Free Rate (10-yr tresury yield)	3,80%
Expected Market return	11,69%
Market Risk Premium	7,89%
Levered Beta	1,46
E/(D+E)	36,6%
Cost of Equity	**15,3%**
WACC	**5,66%**

Table 6 Financial Ratio Calculations

Ratios	Vår Energi ASA	Vår Energi group
	2021	**2021**
Return on equity(ROE)	42,64 %	37,36 %
Return on Total capital	14,68 %	14,50 %
Return on total capital (after tax)	3,97 %	3,61 %
Operating margin	49,22 %	47,91 %
Profit margin	11,44 %	10,24 %
Liquidity level 1	0,559	0,621
Liquidity level 2	0,448	0,501
The speed of circulation of capital	0,298	0,303
Equity ratio	0,080	0,083
DuPont	42,64 %	37,36 %

Table 7 Comparable Company Analysis Calculations

Comparable Companies Analysis

Numbers in 1000

		Market Data					Financials			Valuation		
Company	Ticker	Share Price	Shares Outstanding	Equity Value	Net Debt	Enterprise Value	Revenue	EBITDA	Net Income	EV/Revenue	EV/EBITDA	P/E
Vår energi	J4V.F / VAR	2,50	2 746 047	6 857 752	2 706 738	9 564 490	10 514 084	8 555 621	1 006 632	0,9x	1,1x	6,8x
Total Energies	FP.VI	5,43	2 441 342	13 265 506	22 065 450	35 330 956	283 058 250	22 065 450	63 803 400	0,1x	1,6x	0,2x
Equinor	EQNR	27,12	3 175 470	86 129 536	86 425 000	172 554 536	149 004 000	86 425 000	28 746 000	1,2x	2,0x	3,0x
Aker BP	AKRBP.OL	22,31	632 022	14 102 678	130 191 442	144 294 121	143 043 161	130 191 442	17 779 650	1,0x	1,1x	0,8x
ConocoPhillips	COP	8,96	1 210 059	10 847 207	35 598 000	46 445 207	78 494 000	35 598 000	18 680 000	0,6x	1,3x	0,6x
High										1,2x	2,0x	3,0x
75th %										1,0x	1,7x	1,3x
Average										**0,7x**	**1,5x**	**1,1x**
Median										**0,8x**	**1,5x**	**0,7x**
25th %										0,5x	1,3x	0,5x
Low										0,1x	1,1x	0,2x

Vår energi	EV/Revenue	EV/EBITDA	P/E
Implied Enterprise Value	8 413 629	12 430 902	3 398 233
Net Debt	2 706 738	2 706 738	2 706 738
Implied Market Value	5 706 890	9 724 164	691 495
Shares outstanding	2 746 047	2 746 047	2 746 047
Implied Value Per Share	2,1x	3,5x	0,3x

Multiple Data from Yahoo finance

Table 8 Income statement Vår energi - yahoo finance

Breakdown	TTM	12/30/2022	12/30/2021	12/30/2020	12/30/2019
Total Revenue	9 780 543	**9 780 543**	6 043 375	2 868 635	2 821 056
Cost of Revenue	2 591 106	**2 591 106**	2 845 582	1 057 224	948 562
Gross Profit	7 189 437	**7 189 437**	3 197 793	1 811 411	1 872 494
Operating Expense	268 122	**268 122**	235 229	1 961 677	1 334 275
Operating Income	6 921 315	**6 921 315**	2 962 564	- 150 266	538 219
Net Non Operating Interest Income Expence	- 21 647	- 21 647	- 174 755	- 163 665	- 77 789
Pretax Income	5 855 891	5 855 891	2 646 687	- 2 204 004	451 437
Tax Provision	4 919 489	4 919 489	1 992 331	- 577 380	373 011
Net Income Common Stockholders	936 402	936 402	654 356	- 1 626 625	78 427
Diluted Ni Available to com stockholders	936 402	936 402	654 356	- 1 626 625	78 427
Basic EPS	-	-	0,24	- 0,59	0,03
Diluted EPS	-	-	0,24	- 0,59	0,03
Basic Average Shares	-	-	2 746 047	2 746 047	2 746 047
Total Operating Income as Reported	6 368 820	6 368 820	3 058 546	- 2 252 901	457 138
		2 859 228	3 080 811	3 018 901	2 282 837
Net Income From Countinuing & Discountinued Operations	936 402	936 402	654 356	- 1 626 625	78 427
Normalized Income	1 324 446	1 324 446	653 381	- 7 111	178 661
Interest Income	-	-	-	32 224	13 134
Interest Expense	8 120	8 120	102 247	166 102	62 904
Net Interest Income	- 21 647	- 21 647	- 174 755	- 163 665	- 77 789
EBIT	5 864 011	5 864 011	2 748 934	- 2 037 902	514 341
EBITA	7 311 977	-	-	-	-
Reconciled Cost of Revenue	259 106	259 106	2 845 582	1 057 224	948 562
Reconciled Depreciation	1 447 966	1 447 966	1 704 561	1 706 740	1 168 298
Net income from Countinuing Operation Net Minority Interest	936 402	936 402	654 356	- 1 626 625	78 427
Total Unusual Items Excluding Goodwill	- 646 740	- 646 740	1 250	- 2 188 533	- 128 505
Total Unusual Items	- 646 740	- 646 740	1 250	- 2 188 533	- 128 505
Normalized EBITDA	7 958 717	7 958 717	4 452 245	1 857 371	1 811 144
Tax Rate for Calcs	-	-	-	-	-
Tax Effect of Unusual Items	- 258 696	- 258 696	275	- 569 019	- 28 271
Capital Expenditure	- 2 593 147	- 2 593 147	- 2 584 911	- 1 811 854	- 1 282 441
Working Capital	- 1 589 134	- 748 761	548 534	- 995 337	
edring i WC		- 1 297 295	- 1 543 871	995 337	
Invested Capital	4 434 160	6 009 255	7 117 939	8 337 164	

Income	9 780 543,00	9 780 543,00	6 043 375,00	2 868 635,00	2 821 056,00
Commodity cost	2 591 106,00	2 591 106,00	2 845 582,00	1 057 224,00	948 562,00
Gross profit	7 189 437,00	7 189 437,00	3 197 793,00	1 811 411,00	1 872 494,00
Operating Expense	268 122,00	268 122,00	235 229,00	1 961 677,00	1 334 275,00
Operating Income	6 921 315,00	6 921 315,00	2 962 564,00	- 150 266,00	538 219,00
Pretax Income	5 855 891,00	5 855 891,00	2 646 687,00	- 2 204 004,00	451 437,00
	1 065 424,00	1 065 424,00	315 877,00	2 053 738,00	86 782,00
Depreciation	1 447 966,00	1 447 966,00	1 704 561,00	1 706 740,00	1 168 298,00
Operating result	6 921 315,00	6 921 315,00	2 962 564,00	- 150 266,00	538 219,00
Net finance					
Result before taxes	7 958 717,00	7 958 717,00	4 452 245,00	1 857 371,00	1 811 144,00
Tax	5 754 152,39				
Annual result					

Table 9 Cashflow statement Vår energi - Yahoo Finance

Breakdown	TTM	12/30/2022	12/30/2021	12/30/2020	12/30/2019
Operating Cash Flow	5 681 877	5 681 877	4 579 902	1 743 857	1 499 943
Investing Cash Flow	- 2 663 165	- 2 663 165	- 2 633 140	- 1 947 039	- 4 463 264
Financing Cash Flow	- 2 903 227	- 2 903 227	- 1 976 218	273 297	2 154 956
End Cash prsition	444 607	444 607	223 588	270 411	203 969
Changes in Cash	**115 485**	**115 485**	**- 29 456**	**70 115**	**- 808 365**
Effect of Exchange rate Chages	105 534	105 534	- 19 367	- 1 675	2 182
Beginning Cash Position	223 588	223 588	272 411	203 969	1 010 152
Other Cash Adjustment Outside Change in Cash	-	-	-	2	-
Capital Expenditure	- 2 593 147	- 2 593 147	- 2 584 911	- 1 811 854	- 1 282 441
Issuance of Capital Stock	-	-	-	-	-
Issuance of Debt	2 463 523	2 463 523	4 494 104	964 572	3 912 878
Repayment of Debt	- 4 320 500	- 4 320 500	- 5 335 000	- 197 571	- 32 714
Free Cash Flow	3 088 730	3 088 730	1 994 911	- 64 997	217 502
		3 088 730	1 994 911	- 64 997	217 502

Table 10 Balanse cheet Vår energi - Yahoo finance

Breakdown	12/30/2022	12/30/2021	12/30/2020	12/30/2019
Total Assets	**18 797 288**	**19 799 056**	**20 529 680**	**21 521 362**
Current Assets	1 720 020	1 472 647	1 486 358	1 698 508
Cash, Cash Equivelents & Short-Term Investment	434 693	214 133	262 938	195 922
Cash and Cash Equivelents	434 693	214 133	262 938	195 922
Cash Equivalents	434 693	214 133	262 938	195 922
Inventory	265 811	301 329	283 199	230 099
Raw Materials	223 529	258 726	233 077	209 350
Finished Goods	42 281	42 603	50 122	20 749
Other Inventories	1	-	-	-
Prepaid Assets	30 672	8 305	24 417	4 765
Restricted Cash	9 914	9 454	9 473	8 047
Hedging Assets Current	14 805	17 407	26 340	329 643
Other Current assets	- 1	1	-	1
Total Non-current Assets	17 077 268	18 326 409	18 773 295	19 822 854
Net PPE	14 962 946	15 687 330	15 841 149	14 847 756
Gross PPE	20 983 866	20 363 896	19 158 112	16 018 226
Properties	225 287	199 981	113 327	87 535
Buildings And Improvements	81 887	89 376	89 596	82 115
Machinery furinture Equiptment	14 315 598	14 921 760	15 154 076	13 144 379
Other Properties	53 587	39 350	23 011	14 308
Construction in progress	6 307 507	5 113 429	3 778 102	2 689 889
Accumulated Depreciation	- 6 020 920	- 4 676 566	- 3 316 963	- 1 170 470
Goodwill And Other intangible Assets	2 113 028	2 636 418	2 928 572	4 966 244
Goodwill	2 019 513	2 531 898	2 820 840	4 861 552
Other Intangible Assets	93 515	104 520	107 732	104 692
Other Non Current Assets	531	1 808	2 693	5 480
Total Liabilities Net Monority Interests	**17 315 717**	**18 283 227**	**18 404 803**	**17 467 650**
Current Liabilities	3 309 154	2 221 408	937 851	2 693 845
Current Provisions	60 012	61 536	26 270	100 474
Pension & Other Post Retirement Benefit Plans Current	50 748	5 314	18 577	450 033
Current Debt and Capital Lease Obligation	599 312	108 880	41 078	37 230
Current Debt	500 000	-	196 300	204 564
Current Capital Lease Obligation	99 312	108 880	17 466 952	37 230
Other Current Liabilities	74 104	413 665	66 965	443 998
Total Non Current Liabilities Net Minority Interest	14 006 563	16 061 819	5 386 466	14 773 805
Long Term Provisions	3 226 462	3 309 472	5 263 062	58 991
Long Term Debt and Captial Lease Obligation	**2 565 923**	**4 709 634**	**123 404**	**4 414 650**
Long Term Debt	2 452 589	493 426	4 658 546	4 283 450
Long Term Capital Lease Obligation	113 334	216 208	1 854 877	131 198
Other Non Current Liabilities	76 948	78 185	1 854 877	365 174
Total Equity Gross Minority Interest	**1 481 571**	**1 515 829**	**45 972**	**4 053 712**
Stockholders' Equity	1 481 571	151 829	45 972	4 053 712
Capital Stock	45 972	45 972	3 593 181	45 972
Common Stock	45 972	45 972	- 1 784 276	45 972
Additional Paid In Capital	1 868 181	2 643 181	7 117 939	4 043 181
Other Equity Interests	- 432 582	- 1 173 324	1 854 877	- 35 441
Total Capitalization	**3 934 160**	**6 009 255**	**7 117 939**	**8 337 164**
Common Stock Equity	1 481 571	1 515 829	1 854 877	4 053 712
Capital Lease Obligations	**212 646**	**325 088**	**164 482**	**168 428**
Net Tangible Assets	**- 631 457**	**- 112 589**	**- 1 073 695**	**- 912 532**
Working Capital	**- 1 589 134**	**- 748 761**	**548 534**	**- 995 337**
Invested Capital	**4 434 160**	**6 009 255**	**7 117 939**	**8 337 164**
Tangible Book Value	**- 631 457**	**- 1 120 589**	**- 1 073 695**	**- 912 532**
Total Debt	**3 165 235**	**4 818 514**	**5 427 544**	**4 451 880**
Net Debt	**2 517 896**	**4 279 293**	**5 000 124**	**4 087 530**
Share Issued	**2 746 047**	**2 746 047**	**2 496 406**	**2 496 406**
Ordinary Shares Number	**2 746 047**	**2 746 047**	**2 496 406**	**2 496 406**